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ABSTRACT

Part I of this report presents a survey of grading practices used by higher education institutions in New York. After reviewing current bulletins or catalogues of all the institutions, questionnaires were mailed to 226 requesting information on prior grading practices and on any recent changes in these practices. Results, based on an 80% response, are given of the basic grading practices and the use of the pass/fail grading options for (1) public, private, seminary, and parochial programs; (2) undergraduate 2 - and 4 - year programs; and (3) graduate and professional programs. In the first 2 categories, the overwhelming majority used grading systems with 5 points or more. The majority of graduate programs used a system of 4 points or less, while the majority of the professional programs used grading systems of 5 points or more. Part II presents a bibliography of articles relating to grading practices. Part III presents a case study of attitudes toward 3-point and 5-point grading at Richmond College. The results of a questionnaire distributed to undergraduates, graduates, and faculty indicated a general preference for the 3-point grading system, with strongest support coming from graduate students. Participating institutions, the surveys and questionnaires are included in the appendix. (AF)

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A REVIEW OF GRADING SYSTEM PRACTICES IN THE HIGHER EDUCATION INSTITUTIONS OF NEW YORK STATE

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Part II of the research, the bibliography of grading system articles, was accumulated through the efforts of another of the College's first graduates, Miss Marlene Kaplan, who undertook this task as part of some independent research under the guidance of the senior investigator.

Part III of the investigation, the study of the attitudes toward the Richmond College grading system was the responsibility of K.M. Goldstein.

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PART I:

A SURVEY OF GRADING PRACTICES USED BY HIGHER EDUCATION INSTITUTIONS IN THE STATE OF NEW YORK

INTRODUCTION

As part of a more detailed study which attempted to determine attitudes toward the grading system in effect at Richmond College of the City University of New York (see Part III below), the authors undertook a survey of grading practices presently in effect at all institutions of higher education in the State of New York. (See Appendix I.A for a complete listing of schools from which information was solicited). It was hoped that the information obtained from such a survey would serve a number of functions. It would:

1. provide a general compendium of information on grading practices presently in effect.
2. enable investigators to determine whether or not there were preferences for specific types or a specific type of grading system.
3. permit investigators to determine whether or not schools have been experimenting with various systems and, if so, what kinds of institutions were making what kinds of changes.
4. enable the Richmond College community to evaluate their educational experiment in the broader context of all institutions within the state.

METHOD

Initially, it was thought that sufficient information could be gathered from a perusal of the official bulletins and catalogues published by the various institutions. Accordingly, a letter (Appendix I.B) was sent to all institutions requesting a copy of their most recent bulletin or catalogue. Every school solicited responded. Inspection of the materials revealed that information was available on present grading practices, but little information was presented on the prior grading practices of an institution and the recency of any changes which may have been instituted (assuming some institutions had recently changed their grading practices).

A questionnaire was constructed (Appendix I.C) and mailed, along with a covering letter (Appendix I.D), to a total of 226 institutions (some of which had multiple schools, divisions or programs). The first request yielded a 73.4% response rate. A second request one month later, of those institutions which had not previously responded, yielded an additional 15.4% response. Two mailings yielded an 89% response -- a response rate to a mail survey which was extremely gratifying to the investigators. The materials gathered from various bulletins and catalogues and that obtained from the mail survey, resulted in a sample of grading practices covering 304 separate educational programs.

Materials were then coded according to a system previously established by the investigators (Appendix I.E) and then transferred to data processing cards and analyzed as required.

RESULTS

Public, Private, Seminary, and Parochial Programs

A. Basic Grading Practices:

Analysis of Table I.1 indicates that the overwhelming majority of all the programs surveyed (83%)[1] have grading systems with five or more points.[2] Eighty-one percent (81%) of the public programs, 79% of the private programs, and 89% of the seminary/parochial programs have grading systems based on five or more points of discrimination. One half of all the programs surveyed utilize

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[1] Percentages are based on figures which do not include the No Information category.

[2] Number of points is operationally defined by the number of discrete entries which may be recorded on the students' transcript, regardless of whether the system is numerical or alphabetical. For example, a 05 point system covers the traditional letter grades of A,B,C,D,F; a 12 point system refers to the traditional 05 point system with plus and minus recorded with the grade (A,A-,B+,B,B-,C+,C,C-,D+,D,D-, F); a 99 point system covers those programs which assign numerical grades from 0 to 100.

TABLE I.1

Number of Points in Present Grading Systems of Public, Private, and Seminary/Parochial Programs

Number of points in present grading system	Public		Private		Sem/Par		Total	
	N	%	N	%	N	%	N	%
No Information	6	7	11	9	5	5	22	7
02	0	--	3	2	0	--	3	1
03	4	4	4	4	0	--	8	3
04	13	14	15	13	10	10	38	13
05	55	59	50	43	48	50	153	50
06	1	1	2	2	5	5	8	3
07	2	2	4	4	15	16	21	7
08	3	3	4	4	7	7	14	5
09	1	1	2	2	1	1	4	1
10	0	--	2	2	3	3	5	2
11	0	--	4	4	0	--	4	1
12	1	1	3	2	2	2	6	2
13	7	8	6	5	1	1	14	4
99	0	--	4	4	0	--	4	1
Total	93	1.00	114	1.00	97	1.00	304	1.00

the traditional (A,B,C,D,F) five point grading system.

Of the 49 programs (17%) that have grading systems of 4 points or less, eleven (16%) have 2 and 3-point systems. Examination of some individual cases revealed that Kirkland College (opened in September, 1968) has a Credit (course work completed successfully) - No Credit (course work completed unsuccessfully) system; Richmond College of CUNY (opened September, 1967) has a Pass-Fail-Honors system; the Bank Street College of Education and the New School for Social Research both have Pass-Fail systems. The New School has recently switched from a traditional 5 point grading system (with a required minimum grade point average and number of credits required for graduation) to a Pass-Fail system with the elimination of the minimum credit requirements.

B. Pass/Fail Grading Options:

Although many institutions rely on the traditional grading system for the majority of a student's educational experiences, some schools have also instituted a system of options whereby a student is permitted to have some contact with a Pass/Fail system of evaluation.[3] Examination of Table I.2 indicates that students are permitted to choose the Pass/Fail option most often (in 42% of the cases) only in courses which are not required and/or are not in the major area of specialization. The second most frequent (25%) grading option (option #5) is used in graduate programs of study where students are required to engage in field work experiences (e.g., student teaching and social service) or thesis and/or dissertation research projects.

Some schools have recently changed their basic grading systems. Ninety-three percent (51 out of 55) of the schools which have changed their basic

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[3] A complete description of the various Pass/Fail grading options is presented in Appendix IF.

TABLE I.2

Other Pass/Fail Grading Options Used by Public, Private, and Seminary/Parochial Programs

Option Code	Public N	Public %	Private N	Private %	Sem/Par N	Sem/Par %	Total N	Total %
01	0	--	0	--	0	--	0	--
02	7	41	12	52	5	26	24	42
03	2	12	3	13	1	5	6	10
04	2	12	5	22	5	26	12	20
05	6	35	3	13	6	32	15	25
06	0	--	0	--	0	--	0	--
07	0	--	0	--	2	11	2	3
Total	17	1.00	23	1.00	19	1.00	59	1.00

grading practices have done so within the past five years, and the general trend of the changes has been from systems with a greater number of points to systems with a fewer number of points.

Undergraduate Two and Four Year Programs

A. Basic Grading Practices:

Examination of Table I.3 reveals that approximately 98% of all undergraduate programs in the state have grading systems based on 5 or more points. Sixty-one of the sixty-two (98%) undergraduate two year programs and 136 of the 140 (97%) undergraduate four year programs have such grading systems.

Only one of the undergraduate two year schools has a grading system of four points or less. That school is Richmond College of CUNY, an upper division undergraduate school, which has a three point system (Pass-Fail-Honors). There are only four (02%) undergraduate four year schools that utilize four points or less in their grading systems. Of interest to note is the fact that undergraduate four year schools appear to use a wider range of grading systems than do the two year schools.

B. Pass/Fail Grading Options:

Although 42% of the undergraduate two year and four year institutions utilize Pass/Fail grading option #2, this figure is based on the fact that 21 out of 47 four year schools and 1 out of 5 two year schools use this option (see Table I.4). A similar disproportion, but in the opposite direction, appears in conjunction with the utilization of option #5. Sixty percent (3 out of 5) of the two year institutions permit use of this option while only 19% (9 out of 47) of the four year schools do so.

Of the schools which have changed their grading systems, 96% (50 out of 52) have done so within the last five years and, once again, the general trend of the changes has been from a greater to a lesser number of points.

TABLE I.3

Number of Points in Present Grading Systems of Undergraduate Two and Four Year Programs

	Type of Institution					
No. of points in present grading system	Undergraduate Two Year N	Undergraduate Two Year %	Undergraduate Four Year N	Undergraduate Four Year %	Total N	Total %
No Information	1	1	4	3	5	2
02	0	--	2	1	2	1
03	1	1	0	--	1	1
04	0	--	2	1	2	1
05	53	84	80	56	133	64
06	1	1	4	3	5	2
07	3	5	15	10	18	9
08	2	4	11	8	13	6
09	2	4	1	1	3	1
10	0	--	3	2	3	1
11	0	--	4	3	4	2
12	0	--	6	4	6	4
13	0	--	10	7	10	5
99	0	--	2	1	2	1
Total	63	1.00	144	1.00	207	1.00

TABLE I.4

Other Pass/Fail Grading Options Used by Undergraduate Two and Four Year Programs

Option Code	Undergraduate Two Year N	Undergraduate Two Year %	Undergraduate Four Year N	Undergraduate Four Year %	Total N	Total %
01	0	--	0	--	0	--
02	1	20	21	45	22	42
03	0	--	6	13	6	12
04	1	20	9	19	10	19
05	3	60	9	19	12	23
06	0	--	0	--	0	--
07	0	--	2	4	2	4
Total	5	1.00	47	1.00	52	1.00

Graduate and Professional Programs[4]

A. Basic Grading Practices:

An interesting distinction appears between graduate and professional programs (see Table I.5). Although there is an approximately even split between the total number of programs using a grading system of 5-points or more (45%) and those using a system of 4-points or less (55%), it is apparent that professional programs show a greater tendency toward 5 or more points (67%) while graduate programs appear to prefer (59%) grading systems of 4-points or less. Most graduate programs (46%) rely on the 4-point system (A,B,C,F) with the further stipulation that students accumulating a certain number of credit hours worth of C will be denied permission for continuation in the program.

Of further interest, is the fact that none of the responding professional programs provided their students with any Pass/Fail grading option. Graduate schools, depending on the nature of the specific field of study, utilize either option #2, #4, or #5.

Five schools (3 graduate and 2 professional) have changed their grading systems in the past five years and the trend appears to be in the general direction of using fewer points.

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[4] The professional school category includes such programs as medicine, dentistry, law, pharmacy, podiatry, etc., whereas the graduate school category was applied to those programs offering a masters degree, doctoral degree or advanced certificates.

TABLE I.5

Number of Points in Present Grading Systems of Graduate and Professional Programs

No. of points in present grading system	Graduate		Professional		Total	
	N	%	N	%	N	%
No Information	10	13	2	14	12	13
02	1	1	0	--	1	1
03	3	4	4	29	7	8
04	36	46	0	--	36	39
05	16	20	4	29	20	22
06	2	3	1	7	3	3
07	3	4	0	--	3	3
08	0	--	1	7	1	1
09	1	1	0	--	1	1
10	2	3	0	--	2	2
11	0	--	0	--	0	--
12	0	--	0	--	0	--
13	3	4	1	7	4	5
99	1	1	1	7	2	2
Total	78	1.00	14	1.00	92	1.00

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Part III. A Case Study in Attitudes Toward Grading

INTRODUCTION

The faculty of Richmond College assembled for the first time in August, 1967, one month before the College was to accept its first students. Richmond was a relatively new concept in higher education. Entering students would be college juniors; eventually, the College would develop Masters programs, thus providing students with the 3rd, 4th, and 5th years of higher education. The College was organized along divisional lines (Humanities, Natural Sciences, Social Sciences, and Professional Studies) rather than the more traditional departmental structure. Among the many issues which the faculty had to decide upon by September was the type of grading system to be instituted.

An innovative college should have, it was argued, an innovative grading system. After some discussion the faculty seemed to polarize around two systems. One was the traditional A, B, C, D, F; the other was one of Honors, Pass, Fail. Arguments for and against each of the systems were voiced. One major concern was whether the 3-point system would present difficulties when students attempted to enter graduate schools or transfer to other institutions. An informal phone survey of such institutions assured the faculty that this would not present any special problem.

A vote was taken and the proponents of the 3-point system carried the day. However, it was agreed that an evaluation of the system was necessary and should be made by the end of the Spring 1969 semester. This writer proposed that, in order to provide some data as to why students would choose courses in which they would be evaluated on a 3-point basis, to see if the system did, in fact, encourage students to take difficult courses they might otherwise avoid, and so forth, the 3-point grading system be an option permitted for only one or two courses a semester. Instructors might secretly record grades for all students on both systems. Comparisons could then be made to answer some of the questions of interest. The plan was not acceptable to the faculty, and so ruled out one type of possible evaluation.

For two years, then, Richmond College operated under the 3-point grading system. The faculty had made a commitment to evaluate the system, but as far as this faculty member knows, has made no effort to collect any data bearing on this issue.[1] Rather than adopt the all-too-common educational procedure of having X educators with Y years of collective educational experience sitting down and passing judgment on the program, it was hoped that the current investigation would provide some useful data.

The purpose of this research, then, was to investigate attitudes toward 3-point and 5-point grading systems.

METHOD

The Attitude Instrument

The initial pool of attitude items was generated, in part, as an exercise in the writer's course in Social Psychology. After a brief discussion about the 3-point and 5-point grading systems, students were asked to write, on individual 3" x 5" index cards, Likert-type items about the grading systems. They were asked to word the items so that a person completing a questionnaire could agree or disagree with them. They were also asked to word the items so that some statements would be favorable to the 5-point system, some to the 3-point system, some unfavorable to the 5-point system, some to the 3-point system.

Inspection of the items by this writer seemed to indicate that they were being written to represent different scales, or clusters. These scales plus areas of interest which had emerged during the Faculty Institute in August resulted in the structuring of eight areas of interest (cf. Appendix III.B):

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[1] When faculty were later given an opportunity to express their attitudes toward the grading system, only 24 (approximately 1/3) responded.

A. Amount of Feedback
B. Motivation to Work Well
C. Anxiety and Pressure induced by the System
D. Encouraging Creativity
E. True Learning vs. Learning for Grades
F. General Evaluation
G. Ease of Entering Graduate School
H. Fairness of the System

Eight items were selected, rewritten, or created for each of the scales. The wording of the eight items for each scale was such that two items were worded as positive toward the 3-point system, two as positive toward the 5-point system, two as negative toward the 3-point system, and two as negative toward the 5-point system. Items for each scale were systematically rotated, and the 64-item questionnaire is presented in Appendix III.A. Also included on the questionnaire were 18 miscellaneous items.

Procedure

The questionnaire was administered to undergraduates, graduate students, and faculty on two consecutive days during the second semester of the College's existence. Questionnaires were distributed to instructors of all classes meeting on the two days, and completed protocols were obtained from approximately half the college population (242 undergraduates, 201 graduate students in teacher education, and 24 members of the faculty). Responses to each item were on a 4-point scale of strongly agree, agree, disagree, and strongly disagree.

RESULTS

Factor Analysis

The first 64 items of the questionnaire had been written to assess eight scales of concern. A principal components factor analysis was performed on the data from all subjects in an attempt to validate the a priori scales.

The analysis attempted to extract nine factors, one more than was presumed to exist in the data. It appeared, however, that of these factors only three were accounting for major portions of the variance. After rotation to a varimax criterion, these factors were found to account for 12%, 13%, and 6% of the total variance. The loadings and communalities of the 64 items on these three rotated factors are summarized in Table III.1.

Using the convention of loadings greater than or equal to .30 as an indication of significance, analysis of Table III.1 indicates that 19 items had primary loadings on Factor I, while another 6 had secondary loadings. Of the 19 items with primary loadings, ten were favorably worded toward the 5-point system and eight were negatively worded toward the 3-point system. One of the items was worded negatively toward the 5-point system, but this item had a negative loading. A person with a high factor score on Factor I would thus be one who tends to agree that the 5-point system is good and that the 3-point system is not good. There was no tendency for the items to cluster around any of the eight presumed scales.

Analysis of Table III.1 indicates that on Factor II, 24 of the items had primary loadings while 4 had secondary loadings. Of those with primary loadings, 16 were worded positively toward the 3-point system while the remaining 8 were worded negatively toward the 5-point system. Thus, a person with a high factor score on Factor II would be one who tends to agree that the 3-point system is good and that the 5-point system is not good. Again, there was no tendency for the items to cluster around any of the eight presumed scales.

The interpretation of these first two factors is puzzling. Initially, it appears that Factor I represents individuals who are positively disposed toward the 5-point grading system, and Factor II seems to represent those individuals who are positively disposed toward the 3-point grading system. However, there are some problems with this interpretation:

TABLE III.1

Summary of Loadings and Communalities of the 64 Items On Three Factors after Rotation to the Varimax Criterion

Item[a]	Loading After Rotation on: Factor I	Factor II	Factor III	Communality
22	.72	-.13	.15	.56
53	.67	-.21	.20	.54
54	.67	-.08	.28	.53
46	.66	-.21	.12	.49
42	.66	-.20	.08	.48
29	.64	-.15	.23	.49
50	.62	-.02	.18	.41
61	.60	-.08	.26	.43
21	.59	-.25	.11	.42
14	.56	-.11	.04	.32
36	.52	-.34	.35	.51
18	.51	-.13	.17	.30
60	.43	-.37	.25	.39
4	.42	-.34	.36	.43
8	.38	-.15	.35	.29
52	-.38	.37	-.19	.31
32	.38	-.14	.14	.18
57	.37	-.11	-.03	.15
7	.35	.01	.08	.13
25	.29	-.06	.28	.16
17	.29	-.17	.01	.11
28	.28	-.16	.05	.11
64	.26	-.15	.21	.14
10	.26	-.09	.08	.08
49	.18	-.17	.16	.09
40	.15	-.01	.13	.04
30	-.26	.75	-.02	.63
62	-.26	.75	.01	.64
37	-.31	.71	-.06	.61
58	-.31	.69	-.06	.58
16	-.08	.65	-.09	.44
26	-.28	.62	-.08	.47
1	-.19	.58	-.16	.40
12	-.33	.57	-.27	.50
5	-.29	.56	-.06	.40

(continued)

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[a] Items may be identified by reference to the questionnaire in Appendix III.A

TABLE III.1 (continued)

	Loading After Rotation on:			
Item	Factor I	Factor II	Factor III	Communality
44	-.38	.56	-.19	.50
34	-.21	.53	-.02	.33
48	.07	.53	.06	.29
33	.04	.52	-.10	.29
2	-.23	.49	-.13	.31
19	-.07	.47	-.32	.33
55	-.25	.47	-.28	.36
23	-.02	.43	-.10	.20
9	-.14	.42	-.06	.20
41	-.15	.42	-.01	.20
45	-.25	.40	-.05	.22
6	-.22	.35	-.05	.17
20	.05	.33	-.13	.13
38	-.23	.32	.07	.16
51	-.10	.31	.03	.11
13	-.11	.27	-.06	.09
56	-.06	.20	-.04	.05
63	-.08	.18	-.01	.04
59	.08	.17	-.11	.05
24	.04	.15	-.01	.03
31	-.12	.13	-.08	.04
27	.08	.09	-.07	.02
43	.15	-.04	.75	.58
11	.14	-.05	.74	.56
3	.20	-.17	.64	.48
47	.22	.06	.51	.31
35	.30	-.05	.49	.33
39	.30	-.17	.42	.30
15	.40	-.14	.42	.36

1. To the extent the Factor I represents a 5-point factor, Factor II a 3-point factor, the two should logically be related to each other. That is, a person positively oriented toward the 5-point system should not be positively oriented toward the 3-point system. But a factor analysis and varimax rotation specifies that the factors be independent (orthogonal) of each other. Further confounding the issue is the fact that the two factors are actually negatively correlated (Table III.2). While this is logically to be expected, it is mathematically puzzling.

2. If Factor I were truly an evaluation of the 5-point system, it might be expected that it contains items not only positively worded toward the 5-point system (with positive loadings), but items negatively worded toward the 5-point system (with negative loadings). An individual who agrees with a statement to the effect that the 5-point system is good should disagree with a statement to the effect that the 5-point system is not good. This was not obtained.

3. The two factors are probably not general evaluative factors, because such a general evaluation is generally observed with a single factor and is not likely to be obtained with a varimax rotation. In this investigation, such a factor would probably contain all four types of items: positive to the 5-point system (positive loading), negative to the 5-point system (negative loading), negative to the 3-point system (positive loading), and positive to the 3-point system (negative loading). A person with a high factor score would be positively oriented toward the 5-point system, while an individual with a low score would be positively oriented toward the 3-point system. This entire argument is predicated, of course, on the assumption that positive orientations toward the 5-point and 3-point systems are mutually exclusive. Neither obtained factor is of this type.

There is, however, a certain consistency in the two factors. The items with high loadings on Factor I (which were positive toward the 5-point system, negative toward the 3-point system) could all be answered affirmatively by an individual with positive attitudes toward the 5-point system (or negatively by a person positive toward the 3-point system). The items with high loadings on Factor II (which were positive toward the 3-point system, negative toward the 5-point system) could all be answered affirmatively by an individual with positive attitudes toward the 3-point system (or negatively by a person positive toward the 5-point system). What may have been obtained, then, were two system-specific acquiescent response sets. Factor I may represent acquiescent individuals who are favorably oriented toward the 5-point system; Factor II may represent acquiescent individuals who are favorably oriented toward the 3-point system.

Factor III, the least important of the three factors (accounting for only 6% of the total variance), was somewhat easier to interpret. This factor contained 7 items with primary loadings greater than .30 and 4 items with secondary loadings greater than .30. Four of the items with primary loadings were worded positively toward the 5-point system, the remaining 3 were worded negatively toward the 3-point system. However, 4 of the 7 items represented the scale relevant to difficulties likely to be encountered with other institutions because the system is not widely used. The remaining 3 items reflected the 5-point system's provision of more precise feedback to the student. Thus, a person scoring high on this factor tends to agree that the 5-point system will create fewer difficulties in transferring to other institutions and also that it provides more accurate feedback of the student's performance.

Correlates of Factor Scores

Despite these problems with the interpretation of the factors, factor scores were calculated for all undergraduates and correlated with a variety of variables reflecting college status. Table III.2 summarizes the results of these correlations. The first five variables represent a special dummy coding of the division in which the student is majoring. For example, the variable "Natural Sciences" contrasts students majoring in the Natural Sciences with those in all other disciplines. Analysis of the table reveals no significant correlations between division and attitudes. The next three variables again represent a special dummy coding for those students who indicated they were education majors. As above, the variable "Elementary" contrasts all students majoring in elementary education with those majoring in secondary education or who failed to specify their major as either elementary or secondary. None of

TABLE III.2

Summary of Correlations with College Status Variables

Variable	FACTOR I	FACTOR II	FACTOR III
Division of Major (N=223)			
Natural Sciences	-.11	.00	-.05
Social Sciences	.14	-.06	.12
Humanities	.01	.03	-.08
Professional Studies	-.08	.05	-.01
Interdisciplinary	.05	.03	-.03
Education Majors (N=92)			
Elementary	-.02	-.03	-.09
Secondary	.09	-.08	.05
Unspecified	-.13	.20	.09
Sex (N=239)	.11	-.11	.18*
Grade Point Average (N=203)	-.09	.20*	-.06
Continuation after B.A. (N=214)	.15*	-.08	.14*
Semester at Richmond C. (N=240)	.01	-.06	.09
Previous School (N=233)	-.16*	.15*	-.12
First Semester Average (N=171)	.21*	-.10	.16*
FACTOR I (N=242)	1.00	-.66*	.63*
FACTOR II (N=242)	-.66*	1.00	-.37*
FACTOR III (N=242)	.63*	-.37*	1.00

$^*p < .05$

these correlations were statistically significant.

Several of the remaining variables do indicate statistically significant relationships. Females are more likely than males to feel that the 5-point system will make it easier to transfer to other institutions and that it provides better feedback (Factor III). Grade point average upon entering Richmond College is related to Factor II, so that the higher the average, the greater the preference for the 3-point system. Plans to continue education after the baccalaureate were positively related to Factor I (preference for the 5-point system) and Factor III (belief that the 5-point system will make it easier to transfer from one institution to another). There was no significant correlation between the student's semester at the College (first or second) and any of the factors, suggesting that the attitudes are not influenced by experience with the system. Whether the student had transferred from a 2-year or 4-year college was related to both Factors I and II, the first indicating a greater preference for the 5-point system by transfers from the 2-year colleges, the second similarly indicating a greater preference for the 3-point system by transfers from the 4-year colleges. Finally, for those students who were in their second semester at the College, their first semester academic average was related to both Factors I and III. Semester average was calculated by assigning a weight of 2 to each credit of Honors, of 1 to each credit of Pass, of 0 to each credit of Fail, and dividing by the number of credits taken. The correlations indicated that students who had performed better during their first semester were more favorable to the 5-point system than students who had not performed as well, and that students who had performed better were more likely to feel that the 5-point system was more advantageous for those planning to transfer to graduate schools, professional schools, etc.

One note of caution must be made in the interpretation of these statistically significant relationships. The significant correlations ranged in magnitude from .21 to .14, indicating that their association with the variance in the respective factors ranged from a high of 4.41% to a low of 1.96%. Thus, although the correlations are statistically significant, they are of little practical value.

Table III.2 also summarized the intercorrelations among the factors. Since the factor analysis and varimax rotation should yield orthogonal factors, it is somewhat disturbing that the intercorrelations among the three factors range in magnitude from .66 to .37. Although the direction of the correlations is logically consistent, the high degree of association is not. One possible reason is that the factor analyses were computed on the basis of the data available from all the subjects, while the correlations were based only on undergraduates. However, it does not seem highly likely that, if the factors were not intercorrelated when based on over 400 respondents, they should have such high intercorrelations when half the sample is removed. All the problems with the factor analysis suggest that its results should not be weighted very heavily. It was for these reasons that a different attempt was made to study the clustering of the variables.

Informal Cluster Analysis

Because the results of the factor analysis were not readily interpretable, it was decided to undertake a less sophisticated analysis of the clustering of variables. During the Spring, 1969 semester, 31 students in the author's class in Social Psychology were asked to designate which one of eight categories was most appropriate for each of the first 64 items in the questionnaire. Appendix III.B contains the instructions presented to the students, which contain a description of the eight categories for which the items were originally written. Table III.3 summarizes the students' responses to the items. Inspection of the table indicates that for many items there was rather high agreement on the scale

TABLE III.3

Summary of Student Placement of Items in Different Categories

	CATEGORY (cf. Appendix III.B																		
	A		B		C		D		E		F		G		H		None		Intended
Item	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	Scale
1	-	-	11	35	17	55	1	3	-	-	1	3	-	-	1	3	-	-	C
2	-	-	2	6	-	-	2	6	27	87	-	-	-	-	-	-	-	-	E
3	-	-	-	-	1	3	-	-	-	-	4	13	26	84	-	-	-	-	G
4	2	6	1	3	-	-	-	-	1	3	21	68	4	13	2	6	-	-	F
5	-	-	22	71	-	-	3	10	1	3	3	10	1	3	1	3	-	-	B
6	1	3	6	19	-	-	15	48	5	16	3	10	1	3	-	-	-	-	D
7	2	6	7	23	4	13	10	32	2	6	5	16	1	3	-	-	-	-	A
8	4	13	1	3	-	-	-	-	-	-	2	6	-	-	24	77	-	-	H
9	-	-	5	16	20	65	-	-	4	13	2	6	-	-	-	-	-	-	C
10	-	-	1	3	14	45	-	-	14	45	1	3	-	-	-	-	1	3	E
11	-	-	-	-	-	-	-	-	-	-	-	-	29	94	2	6	-	-	G
12	1	3	1	3	1	3	-	-	2	6	23	74	-	-	1	3	2	6	F
13	-	-	19	61	3	10	1	3	1	3	6	19	-	-	-	-	1	3	B
14	-	-	1	3	3	10	21	68	2	6	3	10	-	-	1	3	-	-	D
15	24	77	2	6	1	3	-	-	-	-	-	-	-	-	4	13	-	-	A
16	-	-	1	3	1	3	-	-	1	3	2	6	-	-	26	84	-	-	H
17	-	-	1	3	28	90	-	-	-	-	-	-	-	-	2	6	-	-	C
18	-	-	2	6	-	-	-	-	28	90	1	3	-	-	-	-	-	-	E
19	-	-	1	3	-	-	-	-	-	-	-	-	27	87	1	3	2	6	G
20	-	-	4	13	3	10	-	-	2	6	19	61	1	3	-	-	2	6	F
21	1	3	25	81	-	-	1	3	-	-	3	10	-	-	-	-	1	3	B
22	1	3	3	10	-	-	24	77	1	3	1	3	-	-	1	3	-	-	D
23	20	65	3	10	1	3	-	-	2	6	1	3	-	-	3	10	1	3	A
24	1	3	-	-	1	3	-	-	-	-	5	16	-	-	24	77	-	-	H
25	1	3	1	3	23	74	-	-	1	3	3	10	-	-	1	3	1	3	C

(continued)

TABLE III.3 (continued)

Item	CATEGORY (cf. Appendix III.B A		B		C		D		E		F		G		H		None		Intended Scale
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	
26	1	3	6	19	3	10	–	–	21	68	–	–	–	–	–	–	–	–	E
27	–	–	–	–	–	–	–	–	2	6	–	–	28	90	1	3	–	–	G
28	1	3	2	6	–	–	–	–	–	–	24	77	3	10	1	3	–	–	F
29	1	3	27	87	–	–	1	3	–	–	2	6	–	–	–	–	–	–	B
30	1	3	7	23	–	–	17	55	5	16	1	3	–	–	–	–	–	–	D
31	25	81	–	–	–	–	–	–	1	3	2	6	–	–	2	6	1	3	A
32	–	–	–	–	1	3	1	3	–	–	3	10	–	–	26	84	–	–	H
33	–	–	1	3	24	77	2	6	4	13	–	–	–	–	–	–	–	–	C
34	–	–	1	3	2	6	–	–	28	90	–	–	–	–	–	–	–	–	E
35	3	10	–	–	1	3	–	–	1	3	10	32	5	16	4	13	7	23	G
36	1	3	–	–	–	–	–	–	–	–	27	87	1	3	2	6	–	–	F
37	–	–	27	87	–	–	2	6	–	–	1	3	1	3	–	–	–	–	B
38	–	–	5	16	4	13	3	10	14	45	3	10	–	–	1	3	1	3	D
39	24	77	1	3	3	10	–	–	–	–	2	6	–	–	1	3	–	–	A
40	2	6	–	–	1	3	–	–	–	–	4	13	–	–	23	74	1	3	H
41	–	–	1	3	29	94	–	–	–	–	1	3	–	–	–	–	–	–	C
42	–	–	4	13	–	–	–	–	24	77	1	3	–	–	1	3	1	3	E
43	–	–	1	3	–	–	–	–	1	3	3	10	25	81	1	3	–	–	G
44	–	–	1	3	–	–	–	–	1	3	26	84	–	–	1	3	2	6	F
45	1	3	13	42	1	3	–	–	11	35	3	10	–	–	1	3	1	3	B
46	–	–	3	10	–	–	26	84	–	–	1	3	–	–	1	3	–	–	D
47	25	81	–	–	1	3	–	–	1	3	1	3	–	–	2	6	1	3	A
48	–	–	2	6	2	6	2	6	1	3	5	16	–	–	18	58	1	3	H
49	1	3	1	3	27	87	–	–	1	3	–	–	–	–	–	–	1	3	C
50	–	–	3	10	–	–	–	–	25	81	–	–	–	–	3	10	–	–	E

(continued)

TABLE III.3 (continued)

Item	CATEGORY (cf. Appendix III.B A No.	A %	B No.	B %	C No.	C %	D No.	D %	E No.	E %	F No.	F %	G No.	G %	H No.	H %	None No.	None %	Intended Scale
51	–	–	–	–	–	–	–	–	1	3	7	23	20	65	–	–	3	10	G
52	–	–	–	–	–	–	–	–	–	–	25	81	1	3	3	10	2	6	F
53	2	6	25	81	–	–	2	6	1	3	1	3	–	–	–	–	–	–	B
54	–	–	19	61	1	3	9	29	1	3	–	–	–	–	1	3	–	–	D
55	28	90	–	–	–	–	–	–	–	–	2	6	–	–	1	3	–	–	A
56	1	3	–	–	–	–	–	–	–	–	2	6	–	–	28	90	–	–	H
57	–	–	2	6	27	87	–	–	1	3	–	–	–	–	1	3	–	–	C
58	–	–	4	13	–	–	1	3	25	81	–	–	–	–	1	3	–	–	E
59	–	–	–	–	–	–	–	–	–	–	8	26	21	68	1	3	1	3	G
60	–	–	–	–	1	3	–	–	2	6	25	81	–	–	3	10	–	–	F
61	1	3	20	65	4	13	2	6	1	3	1	3	–	–	1	3	1	3	B
62	–	–	3	10	1	3	21	68	2	6	3	10	–	–	–	–	1	3	D
63	26	84	1	3	–	–	–	–	1	3	1	3	–	–	2	6	–	–	A
64	1	3	2	6	1	3	–	–	–	–	–	–	–	–	26	84	1	3	H

which was appropriate for the item. This information is further summarized in Table III.4 which indicates that for 42 of the 64 items, agreement on correct scale placement was 74% or greater. For the remaining items, 18 were correctly chosen by the greatest number of students, but the percentages varied from 71% to 42%; only 4 items were assigned most frequently to a scale other than the one for which it had been developed.

Table III.5 is a detailed summary of the responses to each item by the total group, by undergraduates, by graduate students, and by faculty. The entries in the table are reported as percentages.

Table III.6 presents a further reduction of the data and summarizes the results of some statistical analyses. The first section of the table reports on the 42 items which were judged as reflecting the appropriate scale. In the second section, data on the remaining 22 of the original 64 items are reported; and in the third and final section, data on the remaining 18 items on the instrument are summarized. For each item, means are presented for the total group, for undergraduates, for graduate students, and for faculty. Those items in the column headed "total" which are starred are the only ones from the questionnaire in which the mean across all subjects was not statistically different from a mean of 2.50, which would represent neutrality.[2] A mean greater than 2.50 indicates disagreement with the item, while a mean smaller than 2.50 indicates agreement with the item.

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[2] The t-test of significance requires subtracting the obtained total mean from the hypothetical mean of 2.50, and dividing by the standard error of the mean. This latter term is equal to the standard deviation of the sample divided by square root of N-1, which is equivalent to the square root of the sample variance divided by N-1. In these statistical tests, however, the variance was replaced by the mean square within (ms_w) term, obtained from the one-way ANOVA described in the test. The ms_w is an unbiased estimate of the variance. The formula used, then was: $t = (2.5 - M_{obt.}) / \sqrt{(ms_w/N)}$

TABLE III.4

Scale Placement for Attitude Items 1 - 64

Scales	Items							
A. Amount of Feedback	7	15*	23	31*	39*	47*	55*	63*
B. Motivation to Work Well	5	13	21*	29*	37*	45	53*	61
C. Anxiety and Pressure	1	9	17*	25*	33*	41*	49*	57*
D. Encouraging Creativity	6	14	22*	30	38	46*	54	62
E. True Learning	2*	10	18*	26	34*	42*	50*	58*
F. General Evaluation	4	12*	20	28*	36*	44*	52*	60*
G. Ease of Entering Grad. School	3*	11*	19*	27*	35	43*	51	59
H. Fairness of the System	8*	16*	24*	32*	40*	48	56*	64*

*Item placed on correct scale by at least 74% of students.

TABLE III.5

Responses to Individual Attitude Items, by Group
(In %)

Group[a]	Items 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Undergraduate																				
SA	22	40	23	21	19	18	3	21	36	5	27	27	7	5	34	26	8	4	6	6
a	38	32	35	22	30	17	23	28	25	10	35	29	10	10	31	35	17	17	22	15
d	24	18	25	31	39	37	40	25	23	38	26	25	48	40	21	24	36	37	50	36
SD	15	10	18	26	12	28	35	26	16	48	12	19	35	45	14	15	39	42	22	42
Graduate																				
SA	41	47	14	9	16	16	4	6	42	1	12	36	8	3	14	35	1	4	15	5
a	37	31	27	16	42	23	10	21	30	6	36	42	16	10	33	43	7	10	36	10
d	16	16	33	32	32	40	47	39	20	37	35	17	49	36	35	16	34	39	34	40
SD	7	6	28	44	10	22	40	35	9	57	17	5	26	52	19	6	59	48	14	45
Faculty																				
SA	4	13	25	25	0	9	0	0	17	0	26	9	0	0	38	9	0	0	8	0
a	42	42	29	25	21	13	17	38	42	13	26	35	0	9	29	43	8	4	4	4
d	13	33	25	21	42	43	52	33	25	38	22	22	54	39	17	35	58	54	63	46
SD	42	13	21	29	38	35	30	29	17	50	26	35	46	52	17	13	33	42	25	50
Total																				
SA	29	42	19	16	17	17	3	13	37	3	21	30	7	4	25	29	4	4	10	5
a	38	32	31	19	35	19	17	25	28	8	35	35	12	10	32	39	12	13	28	12
d	20	18	28	31	36	39	43	31	22	37	30	21	49	38	27	21	36	39	44	38
SD	13	9	22	34	13	26	37	30	13	52	15	14	32	48	16	11	47	44	19	44

(continued)

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[a] SA = Strongly Agree, a = mildly agree, d= mildly disagree, SD = Strongly Disagree

TABLE III.5 (continued)

Group	Items 21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Undergraduate																				
SA	9	9	13	5	11	34	6	21	12	27	6	13	33	32	12	19	22	33	22	21
a	25	18	25	9	27	34	15	26	24	35	9	16	27	26	15	21	35	27	28	28
d	35	41	37	39	35	19	42	25	36	27	48	35	18	26	34	28	31	26	32	28
SD	31	33	24	47	26	14	37	28	28	11	37	36	21	16	39	32	11	15	19	23
Graduate																				
SA	4	3	9	3	3	45	10	15	5	32	4	3	32	36	10	6	25	33	11	5
a	18	13	29	10	14	30	24	8	18	35	13	11	38	33	27	17	42	36	34	19
d	41	43	43	53	43	17	42	35	41	24	56	47	20	21	39	39	28	22	37	42
SD	38	40	19	34	40	7	25	42	36	9	27	40	10	10	24	39	5	9	18	34
Faculty																				
SA	30	4	0	4	0	18	8	22	17	8	0	0	17	8	4	25	8	39	9	29
a	13	13	26	4	54	35	8	22	29	29	13	17	38	46	13	21	13	39	30	25
d	35	30	43	54	25	41	33	17	33	42	54	57	33	33	35	25	63	13	48	33
SD	22	52	30	38	21	6	50	39	21	21	33	26	13	13	48	29	17	9	13	13
Total																				
SA	8	6	11	4	7	38	8	19	9	28	5	8	32	32	10	14	23	33	17	14
a	21	15	27	9	23	32	18	18	21	35	11	14	33	30	20	19	37	31	30	24
d	38	41	40	46	38	19	42	29	38	26	52	41	20	24	36	32	31	24	35	35
SD	33	37	23	41	32	10	32	35	31	11	32	37	16	13	33	35	9	12	18	27

(continued)

TABLE III.5 (continued)

	Items																			
Group	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Undergraduate																				
SA	30	1	37	31	16	2	41	22	14	7	8	27	9	9	13	9	7	36	3	10
a	30	5	40	25	22	5	39	45	13	22	25	21	18	24	27	11	10	40	7	17
d	26	42	16	26	41	41	13	19	41	33	50	29	36	40	36	52	34	17	47	38
SD	14	51	7	18	21	52	8	14	33	38	17	23	38	27	25	28	49	7	42	35
Graduate																				
SA	32	3	21	39	9	2	23	17	4	5	8	26	4	5	16	8	2	42	3	3
a	40	6	42	37	22	7	54	56	4	11	28	28	14	19	42	18	6	39	10	11
d	20	39	27	16	49	43	18	19	48	48	43	29	41	46	32	55	46	13	54	40
SD	8	53	10	9	20	49	6	7	44	37	22	16	42	31	10	19	47	5	33	46
Faculty																				
SA	26	0	26	4	5	0	41	5	4	4	0	17	4	0	8	0	0	21	0	9
a	30	8	48	22	24	0	41	33	4	13	9	13	30	30	29	17	5	42	4	30
d	35	46	22	35	33	30	5	43	43	43	61	26	48	39	42	33	45	29	42	30
SD	9	46	4	39	38	70	14	19	48	39	30	43	17	30	21	50	50	8	54	30
Total																				
SA	30	2	29	33	12	2	33	19	9	6	7	26	2	7	14	8	4	38	3	7
a	34	6	41	30	22	6	46	49	9	17	25	24	17	22	33	14	8	40	8	15
d	24	41	21	22	44	41	14	20	44	40	47	29	38	42	35	52	40	16	50	38
SD	11	52	8	15	22	52	7	11	38	37	20	21	38	29	18	25	48	6	39	39

(continued)

TABLE III.5 (continued)

Group	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82
	Items																					
Undergraduate																						
SA	12	33	7	28	19	20	4	21	36	18	47	18	8	9	13	9	20	37	40	35		
a	36	40	11	27	33	26	18	35	26	40	35	31	24	22	31	19	33	31	43	42	68	40
d	34	19	45	20	32	34	29	26	21	27	13	32	41	44	40	44	33	20	12	17	32	60
SD	18	9	37	25	16	20	49	18	17	14	6	19	27	25	17	28	14	11	5	6		
Graduate																						
SA	8	39	5	10	24	4	7	23	42	14	49	8	5	9	8	4	11	42	31	22		
a	29	38	19	17	46	8	15	45	31	33	38	22	20	22	23	11	23	34	42	33	82	22
d	36	17	53	36	21	50	42	22	18	32	8	46	45	50	50	60	47	19	20	28	18	78
SD	27	6	31	38	10	39	36	9	9	21	4	23	31	20	19	24	20	5	7	17		
Faculty																						
SA	17	13	0	29	21	9	13	25	17	9	30	0	13	0	9	0	13	0	23	46		
a	38	48	4	50	42	32	46	38	43	23	43	18	17	4	4	4	17	54	54	38	58	54
d	33	26	42	4	17	32	25	13	30	41	13	59	26	58	57	38	35	23	15	0	42	46
SD	13	13	54	17	21	27	17	25	9	27	13	23	43	38	30	58	35	23	8	15		
Total																						
SA	10	34	6	20	21	13	6	22	38	16	47	13	7	9	11	6	16	38	35	30		
a	33	40	11	24	39	19	18	39	29	36	37	26	22	21	26	15	28	33	43	38	71	33
d	35	18	48	26	26	41	34	24	20	30	11	40	42	47	45	51	39	20	16	21	29	67
SD	22	8	35	30	14	28	42	15	13	18	5	21	29	24	18	28	18	9	6	11		

TABLE III.6

Summary Statistics for Responses to Attitude Questionnaire

	Means[a]							Differences[c]		
Item	Total[b]	Under grad.	Grad-uate	Fac-ulty	F Ratio	ms_w	p	UxG	UxF	GxF
A. AMOUNT OF FEEDBACK										
15	2.33	2.14	2.59	2.12	11.48	1.01	.05	.05	-	-
31	3.11	3.15	3.07	3.20	0.72	.61	NS	-	-	-
39	2.54*	2.47	2.61	2.65	1.26	.94	NS	-	-	-
47	1.95	1.86	2.06	1.90	2.93	.74	NS	-	-	-
55	2.57*	2.72	2.37	2.75	7.98	.86	.05	.05	-	.05
63	3.13	3.11	3.11	3.50	2.60	.66	NS	-	-	-
B. MOTIVATION TO WORK WELL										
21	2.96	2.87	3.12	2.47	7.86	.83	.05	.05	.05	.05
29	2.90	2.79	3.08	2.58	7.15	.86	.05	.05	-	.05
37	2.26	2.31	2.12	2.87	8.32	.80	.05	.05	.05	.05
53	3.08	3.02	3.20	2.78	3.60	.79	.05	.05	.05	.05
C. ANXIETY AND PRESSURE										
17	3.26	3.06	3.50	3.25	8.92	.65	.05	.05	-	-
25	2.92	2.76	3.18	2.25	16.82	.89	.05	.05	.05	.05
33	2.19	2.27	2.07	2.41	2.50	1.10	NS	-	-	-
41	2.15	2.24	2.04	2.26	2.40	.95	NS	-	-	-
49	3.11	2.93	3.31	3.34	10.44	.79	.05	.05	.05	-
57	3.30	3.23	3.37	3.45	.93	1.59	NS	-	-	-
D. ENCOURAGING CREATIVITY										
22	3.09	2.98	3.20	3.30	4.16	.75	.05	.05	-	-
46	3.42	3.43	3.39	3.69	2.06	.45	NS	-	-	-
E. TRUE LEARNING VS. GRADES										
2	1.93	1.98	1.82	2.45	5.17	.92	.05	-	.05	.05
18	3.23	3.16	3.30	3.37	1.96	.66	NS	-	-	-
34	2.18	2.26	2.04	2.50	3.76	1.04	.05	.05	-	.05
42	3.42	3.43	3.41	3.37	1.10	.46	NS	-	-	-
50	3.08	3.01	3.16	3.17	1.69	.76	NS	-	-	-
58	1.73	1.62	1.81	2.25	3.08	1.38	.05	-	.05	-
F. GENERAL EVALUATION										
12	2.19	2.36	1.90	2.82	16.63	.97	.05	.05	.05	.05
28	2.79	2.58	3.04	2.73	9.64	1.18	.05	.05	-	-
36	2.88	2.73	3.10	2.58	8.02	1.04	.05	.05	-	.05
44	2.19	2.30	1.94	3.08	15.95	1.04	.05	.05	.05	.05
52	2.45*	2.48	2.36	2.95	3.17	1.18	.05	-	.05	.05
60	3.10	2.97	3.29	2.82	7.98	.79	.05	.05	-	.05

(continued)

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[a] N for groups varied but was approximately as follows: Undergraduate, N=235; Graduate, N=200; Faculty, N=24.

[b] Starred items were not significantly different from a hypothetically neutral mean equal to 2.50.

[c] Cf. text; UxG indicates test between undergraduates and graduates, etc.

TABLE III.6 (continued)

Item	Means Total	Under grad.	Grad- uate	Fac- ulty	F Ratio	ms_w	p	Differences UxG	UxF	GxF
G. ENTERING GRAD. SCHOOL										
3	2.54*	2.38	2.74	2.41	7.27	1.00	.05	.05	-	-
11	2.38	2.21	2.57	2.47	7.61	.92	.05	.05	-	-
19	2.71	2.88	2.47	3.04	14.19	.73	.05	.05	-	.05
27	2.98	3.09	2.81	3.25	6.45	.80	.05	.05	-	.05
43	2.08	1.93	2.27	2.04	7.73	.80	.05	.05	-	-
H. FAIRNESS OF THE SYSTEM										
8	2.77	2.55	3.02	2.91	30.72	.40	.05	.05	.05	-
16	2.13	2.28	1.92	2.52	9.88	.88	.05	.05	-	.05
24	3.23	3.28	3.18	3.25	.90	.60	NS	-	-	-
32	3.07	2.94	3.23	3.08	5.69	.79	.05	.05	-	-
40	2.74	2.53	3.04	3.29	17.33	.95	.05	.05	-	.05
56	2.95	2.99	2.86	3.33	3.85	.70	.05	-	-	.05
64	2.65	2.41	3.01	2.08	20.32	1.14	.05	.05	-	.05
ATTITUDE ITEMS 1-64, NOT ON SCALES										
1	2.17	2.32	1.89	2.91	10.78	.98	.05	.05	.05	.05
4	2.82	2.62	3.10	2.54	12.57	1.08	.05	.05	-	.05
5	2.44*	2.44	2.35	3.16	8.77	.80	.05	-	.05	.05
6	2.72	2.74	2.67	3.04	1.41	1.04	NS	-	-	-
7	3.13	3.05	3.23	3.13	2.34	.75	NS	-	-	-
9	2.10	2.19	1.96	2.41	3.75	1.09	.05	.05	-	.05
10	3.37	3.28	3.48	3.37	3.85	.56	.05	.05	-	-
13	3.05	3.11	2.94	3.45	2.32	.71	NS	-	-	-
14	3.30	3.25	3.36	3.43	1.34	.63	NS	-	-	-
20	3.21	3.15	3.25	3.45	1.73	.73	NS	-	-	-
23	2.74	2.72	2.72	3.04	1.31	.85	NS	-	-	-
26	2.01	2.11	1.86	2.35	4.55	.97	.05	.05	-	.05
30	2.19	2.22	2.09	2.75	4.45	1.09	.05	-	.05	.05
35	2.92	3.00	2.78	3.26	4.21	.92	.05	.05	-	.05
38	2.14	2.22	2.08	1.91	1.67	1.02	NS	-	-	-
45	2.74	2.67	2.80	3.04	2.18	.86	NS	-	-	-
48	2.23	2.24	2.16	2.76	4.45	.77	.05	-	.05	.05
51	2.79	2.76	2.78	3.21	3.04	.70	.05	-	.05	.05
54	2.93	2.85	3.03	3.00	2.32	.76	NS	-	-	-
59	3.25	3.28	3.17	3.50	2.78	.52	NS	-	-	-
61	2.67	2.57	2.82	2.41	4.94	.84	.05	.05	-	.05
62	1.99	2.03	1.91	2.39	3.18	.83	.05	-	-	.05

(continued)

TABLE III.6 (continued)

	Means							Differences		
Item	Total	Under grad.	Grad- uate	Fac- ulty	F Ratio	ms_w	p	UxG	UxF	GxF
MISCELLANEOUS ITEMS, 65-82										
65	2.32	2.44	2.17	2.37	4.26	.90	.05	.05	-	-
66	2.84	2.53	3.23	2.77	31.14	.83	.05	.05	-	.05
67	3.12	3.22	3.08	2.45	8.60	.78	.05	-	.05	.05
68	2.30	2.40	2.17	2.37	3.01	.94	NS	-	-	-
69	2.09	2.19	1.94	2.30	3.47	1.09	.05	.05	-	-
70	2.49*	2.36	2.59	2.86	4.82	.91	.05	.05	.05	-
71	1.74	1.77	1.67	2.08	2.62	.72	NS	-	-	-
72	2.68	2.51	2.84	3.04	8.36	.86	.05	.05	.05	-
73	2.93	2.86	3.01	2.91	1.34	.88	NS	-	-	-
74	2.85	2.85	2.81	3.33	3.89	.75	.05	-	.05	.05
75	2.70	2.60	2.78	3.08	4.49	.77	.05	.05	.05	-
76	3.00	2.91	3.04	3.50	6.05	.68	.05	-	.05	.05
77	2.58*	2.42	2.75	2.91	8.00	.87	.05	.05	.05	-
78	1.99	2.05	1.86	2.69	5.71	.91	.05	.05	.05	.05
79	1.92	1.82	2.03	2.07	3.35	.73	.05	.05	-	-
80	2.12	1.92	2.39	1.84	41.51	.87	.05	.05	-	.05
81	1.26	1.21	1.17	1.41	13.00	.18	.05	.05	-	.05
82	1.66	1.59	1.77	1.46	18.46	.21	.05	.05	-	.05

Table III.6 also reports the results of a one-way analyses of variance (ANOVA) for differences in attitudes among the undergraduates, graduate students, and faculty. Finally, the table records the mean square within term (ms_w) for each ANOVA, and the probability level for each analysis. Since a significant _F_ score merely indicates some difference in the distribution of attitude responses by group, another statistical test is required to determine if a statistically significant difference exists between undergraduates and graduates, between undergraduates and faculty, or between graduates and faculty. Given the limited nature of the current investigation, it was impossible to make the necessary calculations in every instance where a statistically significant _F_ ratio was obtained. However, in order to provide some general guidelines for the interpretation of the differences between groups, in Table III.7 the author has recorded the results of some calculations of critical values for these comparisons. The use of the table is explained in the note accompanying it.

It is now possible to analyze in more detail the results of these analyses, beginning with the items from the first section of Table III.6, which are discussed in terms of the appropriate cluster.

A. AMOUNT OF FEEDBACK. Six of the original eight items were retained in this scale. Four of the items (15, 31, 47, 63) indicate the overall feeling that the 5-point system provides more precise and better feedback; two of the items (39, 55) seem to represent neutrality with regard to the value of feedback from the 3-point system.

Item (15) indicates that graduate students feel less strongly than undergraduates that the 5-point system is a better evaluation of ability and performance, and item (55) indicates that they are more likely than undergraduates or faculty to agree that the 3-point system is a good evaluation of performance.

B. MOTIVATION TO WORK WELL. Four of the eight items were included in this scale. It was felt that the 3-point system creates enthusiasm to perform well

TABLE III.7

Some Critical Values for Differences between Means In Analyses of Variance with Statistically Significant F-Ratios

Comparison Between	Sample Values of ms_w				
	.50	.75	1.00	1.25	1.50
Undergraduates And Graduates	.13[a]	.16	.19	.21	.23
Undergraduates And Faculty	.30	.36	.42	.47	.51
Graduates And Faculty	.30	.36	.42	.47	.51

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[a] Each entry represents a critical value for the difference between a pair of means. For example, the value .13 indicates that, given a $ms_w = .50$, if the difference in means of undergraduate and graduate students is equal to or greater than .13, then the difference is statistically significant at or beyond the .05 level. These values were calculated with a formula suggested by E.F. Lindquist (Design and Analysis of Experiments in Psychology and Education, Boston: Houghton Mifflin, 1953), where $t = (M_1 - M_2) / \sqrt{\left[(1/n_1 + 1/n_2)\, ms_w\right]}$. According to Lindquist, when an alysis of variance yields a statistically significant F ratio, differences between any two of the groups may be tested by a t-test which modifies the error term to take into account the greater number of subjects involved. These calculations were based on average n's, as follows: undergraduates, $n_1 = 235$; graduate students, $n_2 = 200$; faculty, $n_3 = 24$.

(37), that it does not cause students to lose drive (53) or motivation to work to best ability (21); also, it was not felt that the 5-point system provides any greater incentive to work and study (29).

For all four items the differences among the three groups was statistically significant. The graduate students were statistically more favorably disposed toward the 3-point system than the undergraduates, who were statistically more favorably disposed than were the faculty. Actually, the faculty tended toward neutrality (29, 21), or slight lack of preference for the 3-point system, (37).

C. ANXIETY AND PRESSURE INDUCED BY THE SYSTEM. Six of the eight items were retained for this scale. All of the items were in the general direction of indicating greater pressures with the 5-point system than with the 3-point system (17, 25, 33, 41, 49, 57).

Graduate students disagreed more strongly than did undergraduates with the statement that the 3-point system makes students tense and irritable (17). Undergraduate students did not disagree as strongly as did graduates or faculty that the 3-point system places greater pressure on the students (49). While both groups of students did not feel that the 5-point system reduces emotional upset because of familiarity, faculty tended to agree with the statement (25); graduate students were in greater disagreement than were undergraduates.

D. ENCOURAGING CREATIVITY. This scale had only two items to represent it. It was felt neither that the 3-point system prevents students from using their imagination (46), nor that the 5-point system encourages students to perform more creatively (22).

It appeared that undergraduates were somewhat less likely than are graduate students to disagree with the statement that the 5-point system encourages creative performance (22).

E. TRUE LEARNING VS. LEARNING FOR GRADES. This scale retained six of the original eight items. All items were in the general direction that the 3-point system was more likely to promote "true learning" than was the 5-point system. It was felt that the 5-point system causes students to cram for exams rather than really learn (34), and to learn for the sake of grades rather than for learning and knowledge (2); it was not felt that this system allows real learning vs. merely being prepared (50), nor that it motivates students to work for knowledge rather than grades (18). On the other hand, it was agreed that the 3-point system encourages learning for its own sake (58), and that the system does not prevent students from really learning (42).

On both items in which it was felt that the 5-point system causes learning only to pass exams (34) or for grades (2), both graduate students and undergraduates agreed with the items while faculty was rather neutral. In the former, graduate students were in more agreement than were undergraduates; in the later, undergraduates were also in greater agreement than were faculty. The faculty was also less likely than the undergraduates to agree that the 3-point system encourages learning for its own sake (58).

F. GENERAL EVALUATION. Six of the original items were retained for this scale. The general feeling was a preference for the 3-point system. It was agreed that the 3-point system would prove to be the best system (12), that all institutions should adopt it (44); there was disagreement with the statement that there are few favorable arguments for the system (28) and that it will not work out well (60). Similarly, it was not felt that the 5-point system is the more effective system (36). The feeling about whether all institutions should abolish the 5-point system was neutral (52).

On two of the items the graduate students gave stronger support to the 3-point system than did the other two groups (36, 60); on one it gave stronger support than did undergraduates (28). On two of the items graduates were the strongest supporters of the 3-point system (it will prove to be the best; all institutions should adopt it), undergraduates were statistically lower and somewhat in agreement, while faculty were in disagreement (12, 44). For the item as to whether all institutions should abolish the 5-point system, faculty were in statistically greater disagreement than either of the student groups, which tended toward neutrality. Thus, graduate students seemed to be the strongest supporters of the 3-point system, undergraduates next, with faculty last, and, in some instances, even negative.

G. EASE OF ENTERING GRADUATE SCHOOL. Five of the original eight items were retained for this scale. Four of the items reflected the opinion that the 5-point system was generally the more conducive for entrance into later endeavors (11, 19, 27, 43); the fifth reflected neutrality as to whether the 3-point system would create difficulties for the student because it is not widely used (3). More specifically, responses to the items suggested that the 5-point system would make it easy to transfer to other institutions (43) and to enter professional schools (11); there was disagreement that it would handicap some students who wished to attend graduate school (27). Simarly, there was disagreement that the 3-point system would be advantageous to some students planning to enter graduate school (19).

Examination of the differences between groups continued to indicate a divergence of opinion on the part of the graduate students. They were less likely than undergraduates to agree that the 5-point system makes it easy to transfer to other institutions (43) or enter professional schools (11). They were less likely than undergraduates or faculty to disagree with the statement that the 5-point system handicaps some students who wish to attend graduate school (27). Undergraduates tended to agree with the statement that the 3-point system creates difficulties because it is not widely used, the graduates being in slight disagreement (3). While undergraduates and faculty disagreed with the statement that the 3-point system is advantageous to some students planning to enter graduate school, the graduates were evenly split on this point (19).

H. FAIRNESS OF THE SYSTEM. Seven of the original eight items were retained on this scale. The results of the analyses were more difficult to interpret than they were for previous scales. On two of the items the subjects disagreed with statements implying that the 5-point system was unfair: they disagreed that it was unfair because it lets poor students get by (24) and that it is unfair to the average student (56). The remaining five items suggested that the 3-point system had the edge in fairness. It was generally agreed that the 3-point system allows all students to compete fairly (16) and disagreed that it is unfair to students of average ability (32) or of above-average ability (64). Similarly, two of the items were critical of the presumed fairness of the 5-point system; it was disagreed that the 5-point system allows everyone to get the grade they really deserve (8) and that it prevents poor students from being grouped with better students (40).

Of the two items which indicated fairness of the 5-point system, only one showed differences between groups: faculty were more likely than graduate students to disagree that the 5-point system is unfair to the average student (56). All five of the items generally favorable to the 3-point system showed significant interactions. In each instance it was the graduate students who felt the 3-point system to be most fair (8, 16, 32, 40, 64). On the item expressing overall agreement that the 3-point system allows all students to compete fairly, the faculty were neutral (16). On the item for which there was general disagreement that the 5-point system allows everyone to get the grade they really deserve, the undergraduates were evenly divided (8). On the item for which there was disagreement that the 3-point system allows little or no recognition to above-average students, the undergraduates were neutral and the faculty were actually in agreement (64). The same situation occurred for the item expressing general disagreement about the 5-point system preventing poor students from being grouped with better students; the undergraduates were neutral, and the faculty were again in agreement (40). Finally, while all groups disagreed with the statement that the 3-point system is unfair to students of average ability, the graduate students were in statistically greater disagreement than were undergraduates. Thus, the strong preference by graduate students of the 3-point system is again obvious.

Analyses of Miscellaneous Items

Some interesting results were obtained from the items not included among the 42 correctly assigned to one of the eight major clusters. These data are summarized in section two of Table III.6. Below is a summary of these results, item by item.

1. Graduate students were in significantly greater agreement than undergraduates that, by relieving pressure, the 3-point system helps improve study habits; faculty were in disagreement, and statistically lower than both student groups.

4. There was general disagreement that the 5-point system is most preferable. The graduate students were in statistically greater disagreement than undergraduates and faculty, the latter group being evenly divided on the issue.

5. Overall, there was neutrality on the question of whether the 3-point system encourages students to work harder; however, faculty were in statistically significant desagreement when compared with undergraduates who were neutral.

6. All groups were equal in disagreeing that the 5-point system discourages the student from undertaking work on his own initiative.

7. All groups were equal in disagreeing that the 3-point system leaves the student too much on his own.

9. There was overall agreement that the 5-point system creates too much anxiety in competition for grades. Graduate students were in statistically greater agreement than either undergraduates or faculty, the latter group being neutral.

10. All groups disagreed that the 3-point system forces students to cram because of the competition for grades; the disagreement by graduate students was significantly greater than that by undergraduates.

13. All groups disagreed equally with the statement that the 5-point system discourages the student from performing well.

14. All groups disagreed equally with the statement that the 3-point system stifles student ingenuity.

20. All groups disagreed equally with the statement that students would be less likely to come to Richmond College if we had a 5-point system.

23. There was a consensus of disagreement with the statement that you cannot flounder in your studies under the 3-point system without knowing it.

26. There was general agreement that the 3-point system causes students to do more studying for their own benefit rather than for a specific grade. Graduate students were in statistically greater agreement than were either undergraduates or faculty, the latter coming close once again to neutrality.

30. There was general agreement that the 3-point system produces more intellectual curiosity. Both student groups were statistically different from the faculty, who were in disagreement with the item.

35. All groups disagreed with the statement that draft deferments will be a problem because of the 3-point system. Graduate students were in statistically greater disagreement than either undergraduates or faculty.

38. All groups were in equal agreement that the 5-point system discourages students from taking difficult but interesting courses.

45. All groups disagreed equally with the statement that under the 5-point system students tend to produce the minimum work required.

48. There was general agreement that under the 3-point system the average student is able to compete with the better student. Both student groups were statistically different from faculty, the former groups both agreeing with the statement, the faculty disagreeing with it.

51. All groups disagreed that the 3-point system will make it easy for students to find employment after graduation; the faculty were in statistically greater disagreement than either student group.

54. There was equal disagreement among the groups with the statement that the 5-point system encourages students to use their own initiative.

59. All groups disagreed equally that the 5-point system will make it difficult for students planning to obtain jobs after graduation.

61. There was overall disagreement with the statement that the 5-point system encourages students to do well. This result is attributable to the graduate students who differ significantly from both undergraduates and faculty, the latter two groups being relatively evenly divided on the question.

62. All groups felt that the 3-point system encourages the student to perform independently. The difference between graduate students and faculty was statistically significant, the graduate students being in greater agreement.

Finally, section three of Table III.6 summarizes the results of items 65-82, which initially were not intended to represent any of the eight clusters. The data for each of these items is summarized below.

65. The general feeling was that the 3-point system makes it easier for instructors to grade papers. The difference between graduate students and undergraduates being statistically significant, the former being in agreement, the latter being evenly split.

66. There was overall disagreement with the statement that the 3-point system results in more failures than the 5-point system, graduate students disagreeing more strongly than undergraduates or faculty, the undergraduates being neutral.

67. There was general disagreement with the statement that it would not be necessary to work as hard under the 3-point system. While faculty were divided, both student groups were in statistically higher disagreement.

68. All groups were in equal but mild agreement that the 3-point system makes it easier for faculty to assign grades.

69. All groups felt that under the 3-point system a grade of Honors is no different than a grade of A. Graduate students felt most strongly in this respect, and were in statistically higher agreement than were undergraduates.

70. Considering all three groups together, there was an even split on whether, under the 3-point system, the feelings of the instructor would influence the student's grade. However, undergraduates were in slight agreement with the statement while both graduate students and faculty were in slight disagreement, the difference between undergraduates and the other two groups being statistically significant.

71. All three groups strongly and equally agreed that the 3-point system treats the student like an adult.

72. There was general disagreement with the statement that the 3-point system allows the instructor too much freedom for determining the criterion used for the assignment of a grade. While undergraduates were evenly divided on this issue, both the graduate students and faculty were in disagreement, the difference between the undergraduates and the other two groups being statistically significant.

73. The three groups were similar in disagreeing that the 5-point system orients the student toward responsibility.

74. All groups disagreed with the statement that the 5-point system gives too much responsibility to the instructor. The disagreement by the faculty was statistically greater than that by the two student groups.

75. All groups disagreed with the statement that it is relatively easy to get by under the 5-point system. Statistically, the undergraduates were in less disagreement than either the graduate students or faculty.

76. All groups disagreed that the 5-point system discourages class participation. The disagreement by faculty was very high, and statistically higher than that of the two student groups.

77. In general, there was an even split over whether the 5-point system is easier for instructors to use. However, while undergraduates tended to be neutral on this item, the remaining two groups were statistically different from them and both were in disagreement.

78. It was generally agreed that the relationship between student and teacher is better under the 3-point system. Graduate students felt more strongly about this than did undergraduates. Both student groups were in agreement with the item and statistically different from the faculty, who tended to disagree with it.

79. All groups reported feeling strongly about the attitudes they had expressed in the questionnaire; undergraduates felt more strongly about this than did the graduate students.

80. The three groups each agreed to having spent a good deal of time considering the merits and demerits of the two grading systems. There was a statistically significant difference in this regard between the graduate students and the other two groups, the graduates being somewhat neutral, the other two being in agreement.

81. 71% of the respondents indicated they would vote for a 3-point system over a 5-point system. By group, this was undergraduates (68%), graduates (82%), faculty (58%). The difference between the graduate students and the other two groups was statistically significant.

82. 67% of the respondents indicated they would prefer one of the two systems over some other type system. By group it was: undergraduates (60%), graduates (78%), faculty (46%). The difference between the graduate students and the other two groups was statistically significant.

SUMMARY

Despite some unexpected difficulties with the factor analysis, the results of the study seem rather consistent. The data have indicated a general preference for the 3-point grading system across all areas, with the exception of items having to do with amount of feedback (A) and with acceptance into different institutions, where the novelty of the 3-point system might raise difficulties (Cluster G).

It was also consistently found that the sample of graduate students were the greatest advocates of the 3-point grading system. While the undergraduates were generally supportive of the 3-point grading system, their support was often at a level significantly below that of the graduate students. The statistical analyses often failed to show differences in attitudes between the faculty and undergraduates. This finding, however, might have been due to the small number of faculty who responded to the questionnaire, decreasing the power of the statistical tests and making it more difficult to find a difference when such a true difference actually exists. Certainly, in terms of a consistency across items, the faculty were most often the group least favorably disposed toward the 3-point grading system, and were actually closest to being evenly divided in its preference for the two systems.

The data suggest, then, that a 3-point grading system is more generally acceptable to the college community than is the traditional 5-point system. However, because of the concern of many students about entering graduate and professional schools, a concern which seems to be supported by informal observations of the real situation,[3] it may be necessary to institute a grading procedure which allows the student various options in the system by which he is to be evaluated.

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[3] Graduating seniors have reported informally that a few graduate schools would not consider their applications because of the 3-point grading system. Some of our students have reported that the system was a handicap in their attempts to enter certain schools, and several graduate institutions have asked for translations, in varying detail, of the meaning of the specific grade received in a course, especially when that grade was a "Pass".

APPENDICES

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Appendix I.A

FOUR YEAR PRIVATE

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1181ADELPHI UNIVERSITY COLLEGE OF ARTS & SCIENCES  GARDEN CITY
1182122 3 05122
1191ADELPHI UNIVERSITY GRADUATE SCHOOL OF ARTS & SCIENCES  GARDEN CITY
119222  3 042 2
1201ADELPHI UNIVERSITY SCHOOL OF NURSING  GARDEN CITY
1202122
1211ADELPHI UNIVERSITY SCHOOL OF SOCIAL WORK  GARDEN CITY
121222  3 042 2
1221ADELPHI UNIVERSITY SCHOOL OF BUSINESS ADMINISTRATION  GARDEN CITY
1222122 3 05122
1231ADELPHI UNIVERSITY GRADUATE SCHOOL OF BUSINESS ADMINISTRATION  GARDEN CITY
123222  3 042 2
1241ADELPHI SUFFOLK COLLEGE - DOWLING COLLEGE  OAKDALE
1242122 3 132 2
1251ALFRED UNIVERSITY  ALFRED
1252122 3 082 2
1261ALFRED UNIVERSITY  ALFRED
126222  3 042 2
1271BANK STREET COLLEGE OF EDUCATION  69 BANK STREET  NEW YORK CITY
127222  3 022 2
1281BAPTIST BIBLE SEMINARY  JOHNSON CITY
128211213 052 2
1291BIBLICAL SEMINARY IN N.Y. - N.Y. THEOLOGICAL SEMINARY 235 E. 49 ST.  N.Y.C
129221 43 102 1105
1301BARD COLLEGE  ANNANDALE ON HUDSON
1302122 3
1311BARNARD COLLEGE  606 W. 120 ST.  N.Y.C.
1312122 2 101311
1321BRENTWOOD COLLEGE  BRENTWOOD
132211212 052 2
1331BRIARCLIFF COLLEGE  BRIARCLIFF MANOR
1332122 2 08  2
1341BROOKLYN LAW SCHOOL  375 PEARL STREET  BROOKLYN
1342322 33052 2
1351BUFFALO BIBLE INSTITUTE  910 UNION RD., RT. 188  BUFFALO
135211243 052 2
1361CANISIUS COLLEGE  2001 MAIN STREET  BUFFALO
136211213 052 2
1371CANISIUS COLLEGE  2001 MAIN STREET  BUFFALO
137221 13 042 2
1381CAPUCHIN THEOLOGICAL SEMINARY  GARRISON
138211211 072 2
1391CAPUCHIN THEOLOGICAL SEMINARY  GARRISON
139221 11 072 2
1401CATHEDRAL COLLEGE OF THE IMMACULATE CONCEPTION  7200 DOUGLASTON PKWAY
140211211 082 1105
1411CATHEDRAL COLLEGE OF THE IMMACULATE CONCEPTION  7200 DOUGLASTON PKWAY.
141231111
1421CLARKSON COLLEGE OF TECHNOLOGY  POTSDAM
1422122 3 052 2
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1431CLARKSON COLLEGE OF TECHNOLOGY  POTSDAM
143222  3 042 2
1441COLGATE ROCHESTER DIVINITY SCHOOL  1100 S. GOODMAN STREET  ROCHESTER
144222  3 092 1199
1451COLGATE UNIVERSITY  HAMILTON
1452122 1 13121105
1461COLGATE UNIVERSITY  HAMILTON
146222  1 052 2
1471COLLEGE OF INSURANCE  150 WILLIAM STREET  NEW YORK CITY
1472122 3 052 2
1481COLLEGE OF MT. ST. VINCENT  W. 263 ST. & RIVERSIDE DR.  BRONX
148211212 062 2
1491COLLEGE OF NEW ROCHELLE  CASTLE PLACE  NEW ROCHELLE
149212212 05122
1501COLLEGE OF ST. ROSE  432 WESTERN AVENUE  ALBANY
150211212 051311
1511COLLEGE OF ST. ROSE  432 WESTERN AVENUE  ALBANY
151221 12 042 2
1521COLUMBIA UNIVERSITY - COLUMBIA COLLEGE  NEW YORK CITY
1522122 3 11121111
1531COLUMBIA UNIVERSITY - SCHOOL OF GENERAL STUDIES  NEW YORK CITY
1532122 3 11122
1541COLUMBIA UNIVERSITY - TEACHERS COLLEGE  NEW YORK CITY
154222  3 052 2
1551COLUMBIA UNIVERSITY - GRADUATE FACULTY  NEW YORK CITY
155222  3 0514
1561COLUMBIA UNIVERSITY - COLLEGE OF PHARMACY  115 W. 68 ST.  NEW YORK CITY
1562122 34052 2
1571COLUMBIA UNIVERSITY - COLLEGE OF PHARMACY  115 W. 68 ST.  NEW YORK CITY
157232  34
1581THE COOPER UNION  COOPER SQUARE NEW YORK
1582122 3 052 2
1591THE COOPER UNION  COOPER SQUARE, NEW YORK
159222  3
1601CORNELL UNIVERSITY  ITHACA
1602122 3 13  1199
1611CORNELL UNIVERSITY - LAW SCHOOL  ITHACA
161232  33132
1621CORNELL MEDICAL COLLEGE  1300 YORK AVE.  NEW YORK
162232  31062 12
1631DOMINICAN COLLEGE OF BLAUVELT  BLAUVELT,  ROCKLAND COUNTY
163211 13 072 1108
1641D'YOUVILLE COLLEGE  320 PORTER AVE.  BUFFALO
164211212 05142
1651EISENHOWER COLLEGE  64 FALL STREET  SENECA FALLS
1652122 3 05122
1661ELMIRA COLLEGE  ELMIRA
1662122 3 051411
1671ELMIRA COLLEGE  ELMIRA
167222  3
1681FINCH COLLEGE  52 E. 78 ST.  NEW YORK CITY
1682122 2 12151124
1691FORDHAM UNIVERSITY - SCHOOL OF BUSINESS ADMINISTRATION  BRONX
169211213 072
1701FORDHAM UNIVERSITY - COLLEGE OF PHARMACY  BRONX
1702112134072
1711FORDHAM UNIVERSITY - SCHOOL OF EDUCATION  302 BROADWAY  NEW YORK CITY
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171211213 072
1721FORDHAM UNIVERSITY - FORDHAM COLLEGE  BRONX
172211211 0712
1731FORDHAM UNIVERSITY - THOMAS MORE COLLEGE  BRONX
173211212 0712
1741FORDHAM UNIVERSITY - GRAD. DIVISION  ROSE HILL CAMPUS  BRONX
174221 13 0515
1751GENERAL THEOLOGICAL SEMINARY  175 9TH AVE.  NEW YORK CITY
175211221 052 2
1761GENERAL THEOLOGICAL SEMINARY  175 9TH AVE.  NEW YORK CITY
176221 21 052 2
1771GOOD COUNSEL COLLEGE  52 N. BROADWAY  WHITE PLAINS
177211212 052 2
1781HAMILTON COLLEGE  CLINTON
1782122 1 062 2
1791HARRIMAN COLLEGE  HARRIMAN
179211212 082 2
1801HARTWICK COLLEGE  OYARON HILL ONEONTA
180211223 122 2
1811HEBREW UNION COLLEGE JEW. INST. OF REL. SCHOOL OF ED. &MUSIC  N.Y.C.
181211233 042
1821HEBREW UNION COLLEGE JEW. INST. OF REL. SCHOOL OF ED. & MUSIC  N.Y.C.
182221 33 042
1831HEBREW UNION COLLEGE JEW. INST. OF REL. RABBINICAL SCHOOL  NEW YORK CITY
183211231 042
1841HEBREW UNION COLLEGE JEW. INST. OF REL.  RABBINICAL SCHOOL  NEW YORK CITY
184221 31 042
1851WILLIAM SMITH & HOBART COLLEGES  GENEVA
1852122 3 122 1112
1861HOFSTRA UNIVERSITY  HEMPSTEAD
1862122 3 05121105
1871HOFSTRA UNIVERSITY  HEMPSTEAD
187222  3 042
1881HOLY TRINITY ORTHODOX SEMINARY  HERKIMER
188211241 052 2
1891HOUGHTON COLLEGE  HOUGHTON
189211243 052 2
1901IMMACULATE CONCEPTION SEMINARY  VANDENBURGH, TROY
190211211 052 2
1911INSTITUTE OF PUBLIC ADMINISTRATION  55 W. 44 ST.  NEW YORK CITY
191222  3
1921IONA COLLEGE  NEW ROCHELLE
192211211 07121107
1931IONA COLLEGE  NEW ROCHELLE
193221 11 072
1941ITHACA COLLEGE  120 BUFFALO STREET  ITHACA
1942122 3 132 1105
1951ITHACA COLLEGE  120 BUFFALO ST.  ITHACA
195222  3 052 2
1961JEWISH THEOLOGICAL SEMINARY  3080 BROADWAY  NEW YORK CITY
196211233
1971JEWISH THEOLOGICAL SEMINARY  3080 BROADWAY  NEW YORK CITY
197221 31
1981JULLIARD SCHOOL OF MUSIC  120 CLAREMONT AVENUE  NEW YORK CITY
1982122 3 052 1106
1991JULLIARD SCHOOL OF MUSIC  120 CLAREMONT AVENUE  NEW YORK CITY
199222  3
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2001KEUKA COLLEGE  KEUKA PARK
200211222 05152
2011KINGS COLLEGE  BRIARCLIFF MANOR
2012122 3 052
2021KIRKLAND COLLEGE  CLINTON
2022122 3 022 2
2031LADYCLIFF COLLEGE  HIGHLAND FALLS
203211212 082 2
2041LEMOYNE COLLEGE  LEMOYNE HEIGHTS, SYRACUSE
204211213 052 2
2051(L.I.U.) C.W. POST COLLEGE  BROOKVILLE
2052122 3 072 2
2061(L.I.U.) C.W. POST COLLEGE  BROOKVILLE
206222  3 042 2
2071(L.I.U.) SOUTHAMPTON COLLEGE  43 HILL ST.  SOUTHAMPTON
2072122 3 072 2
2081(L.I.U.)BROOKLYN COLLEGE OF PHARMACY  600 LAFAYETTE AVE.  BROOKLYN
2082122 3 052 1105
2091(L.I.U.)BROOKLYN COLLEGE OF PHARMACY  600 LAFAYETTE AVE.  BROOKLYN
209222  3
2101(L.I.U.)UNIVERSITY CENTER - BROOKLYN
2102122 3 072
2111(L.I.U.)UNIVERSITY CENTER - BROOKLYN
211222  3 042 2
2121M.J.LEWI COLLEGE OF PODIATRY  53055 E. 124 STREET  NEW YORK CITY
2122122 35992 2
2131M.J. LEWI COLLEGE OF PODIATRY  53055 E. 124 STREET  NEW YORK CITY
213232  35992 2
2141MANHATTAN COLLEGE  4513 MANHATTAN COLLEGE PARKWAY  NEW YORK CITY
214211211 052 2
2151MANHATTAN COLLEGE  4513 MANHATTAN COLLEGE PARKWAY  NEW YORK CITY
215221 11 042 2
2161MANHATTAN SCHOOL OF MUSIC  238 E. 105 ST.  NEW YORK CITY
2162122 3 052 2
2171MANHATTAN SCHOOL OF MUSIC  238 E. 105 ST.  NEW YORK CITY
217222  3 052 2
2181MANHATTANVILLE COLLEGE  PURCHASE
218211 13 06141105
2191MANHATTANVILLE COLLEGE  PURCHASE
219221 13 06121105
2201MANNES COLLEGE OF MUSIC  157 E. 74 ST.  NEW YORK CITY
2202122 3 10  1109
2211MARIST COLLEGE  POUGHKEEPSIE
221211211 051711
2221MARYKNOLL SEMINARY  WESTCHESTER
222211211 052 1299
2231MARYMOUNT COLLEGE  TARRYTOWN
223211212 131511
2241MARYMOUNT MANHATTAN COLLEGE  221 E. 71 STREET  NEW YORK CITY
224211212 052 2
2251MARY ROGERS COLLEGE  MARY KNOLL, NEW YORK
225211212 102 11
2261MERCY COLLEGE  DOBBS FERRY
226211212 071711
2271MEDAILLE COLLEGE (MT. ST. JOSEPH)  BUFFALO
227211213 05142
2281MEDAILLE COLLEGE (MT. ST. JOSEPH)  BUFFALO
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228221 13 04
2291MILLS COLLEGE OF EDUCATION  66 FIFTH AVE.  NEW YORK CITY
2292122 2 052 2
2301MOLLOY CATHOLIC COLLEGE FOR WOMEN  1000 HEMPSTEAD AVE.  ROCKEVILLE CENTRE
230211212 07142
2311MOUNT ST. ALPHONSUS SEMINARY  ESOPUS
231221 11 051511
2321MOUNT ST. MARY COLLEGE  LIBERTY ST.  NEWBURGH
232211212 08151105
2331NAZARETH COLLEGE OF ROCHESTER  4245 EAST AVENUE
233211212 081511
2341THE NEW SCHOOL  66 W. 12 STREET  NEW YORK CITY
2342122 3 02131105
2351THE NEW SCHOOL  66 W. 12 STREET  NEW YOCK CITY
235222  3 05
2361NEW YORK INSTITUTE OF TECHNOLOGY  135-145 W. 70 STREET  NEW YORK CITY
2362122 3 052 2
2371NEW YORK LAW SCHOOL  57 WORTH STREET  NEW YORK CITY
237232  33052 2
2381NEW YORK MEDICAL COLLEGE  20 E. 106 STREET  NEW YORK CITY
238232  31032 1103
2391NEW YORK COLLEGE OF MUSIC  114 E. 85 STREET  NEW YORK CITY
2392122 3
2401NEW YORK UNIVERSITY - SCHOOL OF EDUCATION  NEW YORK CITY
2402122 3 052
2411NEW YORK UNIVERSITY - SCHOOL OF EDUCATION  NEW YORK CITY
241222  3 052
2421NEW YORK UNIVERSITY - WASHINGTON SQUARE COLL.  100 WASHINGTON SQUARE E. NYC
2422122 3 0512
2431NEW YORK UNIVERSITY - SCHOOL OF LIBERAL ARTS & SCIENCES  NEW YORK CITY
243222  3 042
2441NEW YORK UNIVERSITY - SCHOOL OF ENGINEERING  NEW YORK CITY
2442122   052
2451NEW YORK UNIVERSITY - SCHOOL OF ENGINEERING  NEW YORK CITY
245222  3 042
2461NEW YORK UNIVERSITY - UNIVERSITY HEIGHTS SCHOOL  NEW YORK CITY
2462122 3 052
2471NEW YORK UNIVERSITY - SCHOOL OF COMMERCE
2472122 3 052
2481NEW YORK UNIVERSITY - SCHOOL OF PUBLIC ADMINISTRATION  NEW YORK CITY
248222  3 042
2491NEW YORK UNIVERSITY - LAW SCHOOL  NEW YORK CITY
249232  33082
2501NIAGARA UNIVERSITY  NIAGARA
250211213 052 1109
2511NIAGARA UNIVERSITY  NIAGARA
251221 13 042
2521NOTRE DAME COLLEGE  STATEN ISLAND
252211212 0514
2531NYACK MISSIONARY COLLEGE  NYACK
253211213 052 2
2541PACE COLLEGE  41 PARK ROW  NEW YORK CITY
2542122 3 05121105
2551PACE COLLEGE  41 PARK ROW  NEW YORK CITY
255222  3 042 2
2561PASSIONIST MONASTIC SEMINARY  86-45 178 STREET  JAMAICA
256211211 062 2
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2571POLYTECHNIC INSTITUTE OF BROOKLYN  333 JAY STREET  BROOKLYN
2572122 3 11151105
2581POLYTECHNIC INSTITUTE OF BROOKLYN  333 JAY STREET  BROOKLYN
258222  3 042 2
2591PRATT INSTITUTE  215 RYERSON STREET  BROOKLYN
259222  3 052 2
2601PRATT INSTITUTE  215 RYERSON STREET  BROOKLYN
2602122 3 052 2
2611RENSSELAER POLYTECHNIC INSTITUTE  TROY
261222  3 042 2
2621RENSSELAER POLYTECHNIC INSTITUTE  TROY
2622122 3 05132
2631ROBERT WESLEYAN COLLEGE  NORTH CHILI, MONROE
263211223 052 2
2641ROCHESTER INSTITUTE OF TECHNOLOGY  ROCHESTER
2642122 3 052 2
2651ROCHESTER INSTITUTE OF TECHNOLOGY  ROCHESTER
265222  3
2661ROCKEFELLER UNIVERSITY  YORK AVE. & 66 STREET  NEW YORK CITY
266222  3     2
2671ROSARY HILL COLLEGE  4380 MAIN STREET  BUFFALO
267211212 052 2
2681RUSSELL SAGE COLLEGE  TROY
2682122 3 052 2
2691  RUSSELL SAGE COLLEGE  TROY
269222  3 052 2
2701ST. BERNARD'S SEMINARY  2260 LAKE STREET  MONROE
270211211 08  1105
2711ST. BONAVENTURE UNIVERSITY  ST. BONAVENTURE
271211213 05  1105
2721ST. BONAVENTURE UNIVERSITY  ST. BONAVENTURE
272221  3 042 2
2731ST. CHARLES SEMINARY  STATEN ISLAND
273211211 052 2
2741ST. FRANCIS COLLEGE  CIVIC CENTER  BROOKLYN
274211211 052
2751ST. JOHN FISHER COLLEGE  3690 EAST AVENUE  ROCHESTER
275211211 082 1105
2761ST. JOHN'S UNIVERSITY96 SCHERMERHORN STREET  BROOKLYN
276211213 092 2
2771ST. JOHN'S UNIVERSITY  96 SCHERMERHORN STREET  BROOKLYN
277221 13 062 2
2781ST. JOHN'S VIANNEY SEMINARY  AURORA
278211211 052 2
2791ST. JOHN'S VIANNEY SEMINARY  AURORA
279221 11 052
2801ST. JOSEPH'S COLLEGE FOR WOMEN  245 CLINTON AVENUE  BROOKLYN
280211212 122 2
2811ST. JOSEPH'S SEMINARY & COLLEGE  YONKERS
281211211 072 1199
2821ST. LAWRENCE UNIVERSITY  CANTON
2822122 3 052 2
2851ST. THOMAS AQUINAS COLLEGE  SPARKHILL
285211212 072 2
2861ST. VLADIMIR'S ORTHODOX THEOLOGICAL SEMINARY 575 SCARSDALE RD.  CRESTWOOD
286221 41 052 2
2871SARAH LAWRENCE  BRONXVILLE
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2872122 2   2 2
2881SARAH LAWRENCE  BRONXVILLE
288222  2   2 2
2891SIENA COLLEGE  LOUDONVILLE
289211211 052 2
2901SKIDMORE COLLEGE  SARATOGA SPRINGS
2902122 2 122 1112
2911SYRACUSE UNIVERSITY  SYRACUSE
2912122 3 052 2
2921SYRACUSE UNIVERSITY  SYRACUSE
292222  3 042 2
2931UTICA COLLEGE OF SYRACUSE UNIVERSITY  BURRSTONE ROAD  UTICA
2932132 3 052 2
2941U.S. MERCHANT MARINE ACADEMY  KINGSPOINT LONG ISLAND
2942122 3 052 2
2951UNION THEOLOGICAL SEMINARY & AUBURN THEOLOGICAL SEMINARY 3041 BROADWAY  NY
295221 43 102 2
2961UNION UNIVERSITY - UNION COLLEGE  SCHENECTADY
2962122 1 052 2
2971UNION UNIVERSITY - UNION COLLEGE  SCHENECTADY
297222  1 032 2
2981UNION UNIVERSITY - ALBANY LAW SCHOOL  80 NEW SCOTLAND AVENUE  ALBANY
298232  33052 2
2991UNION UNIVERSITY - ALBANY COLLEGE OF PHARMACY  ALBANY
299232  34052 2
3001UNION UNIVERSITY - ALBANY MEDICAL SCHOOL  48 NEW SCOTLAND AVE.  ALBANY
300232  3 032 2
3011UNIVERSITY OF ROCHESTER  RIVER CAMPUS STATION  ROCHESTER
3012122 3 08142
3021UNIVERSITY OF ROCHESTER  RIVER CAMPUS STATION  ROCHESTER
302222  3 05142
3031VASSAR COLLEGE  POUGHKEEPSIE
3032122 2 11142
3041VASSAR COLLEGE  POUGHKEEPSIE
304222  2 032 2
3051WAGNER COLLEGE  STATEN ISLAND
305212223 052 1105
3061 WEBB INSTITUTE  CRESCENT BEACH ROAD  GLEN COVE  LONG ISLAND
3062122 1 992 2
3071WEBB INSTITUTE  CRESCENT BEACH ROAD  GLEN COVE, LONG ISLAND
307222  1 992 2
3081WELLS COLLEGE  AURORA
3082122 2 13121105
3091YESHIVA UNIVERSITY  NEW YORK CITY
309211233 051211
3101YESHIVA UNIVERSITY  NEW YORK CITY
310221 33
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TWO YEAR PUBLIC & PRIVATE AND FOUR YEAR PUBLIC

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0011ACACEMY OF AERONAUTICS LA GUARDIA AIRPORT
0012121 1 052 2
0021ADIRONDACK COMMUNITY COLLEGE  HUDSON FALLS
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0022131 3 052 2
0031AUBURN COMMUNITY COLLEGE  FRANKLIN STREET CAYUGA
0032131 3 052 2
0041BENNETT COLLEGE  MILLBROOK
0042121 2 05152
0051BOROUGH OF MANHATTAN COMMUNITY COLLEGE (CUNY)  535 E 80 ST.  NY
0052131 3 05152
0061BRONX COMMUNITY COLLEGE (CUNY)  120 E. 184 ST.  N.Y.
0062131 3 05 2 2
0071BROOME TECHNICAL COMMUNITY COLLEGE  BINGHAMPTON
0072131 3 062 2
0081BUFFALO DIOCESAN PREPARATORY SEMINARY  564 DODGE ST. BUFFALO
008211111 052 2
0101CAZENOVIA COLLEGE CAZENOVIA
0102121 2 05121105
0111COLLEGE OF THE HOLY NAMES  NEW SCOTLAND ROAD  ALBANY
011211112
0121CONCORDIA JUNIOR COLLEGE  BRONXVILLE
012211123 052 2
0131CORNING COMMUNITY COLLEGE  CORNING
0132131 3 052 2
0141DUTCHESS COMMUNITY COLLEGE  PENDELL ROAD  POUGHKEEPSIE
0142131 3 052 2
0151ELIZABETH SETON COLLEGE  1061 N. BROADWAY YONKERS
015211112 052 2
0161EPIPHANY APOSTOLIC COLLEGE  NEWBURGH
016211111 052 2
0171ERIE COUNTY TECHNICAL INSTITUTE  BUFFALO
0172131 3 052 2
0191FASHION INSTITUTE OF TECHNOLOGY  227 W. 27 STREET  NEW YORK CITY
0192131 3 092 1105
0201FULTON MONTGOMERY COMMUNITY COLLEGE  JOHNSTOWN
0202131 3 052 2
0211HERKIMER COUNTY COMMUNITY COLLEGE  STATE STREET ILION
0212131 3 052 2
0231HUDSON VALLEY COMMUNITY COLLEGE  80 VANDENBURGH AVENUE  TROY
0232131 3 052 2
0241IMMACULATA COLLEGE  5200 SOUTH PARK AVE  HAMBURG
024211112 052 2
0251JAMESTOWN COMMUNITY COLLEGE  JAMESTOWN
0252131 3 052
0261JEFFERSON COMMUNITY COLLEGE  P.O. BOX 255  WATERTOWN
0262131 3 052 2
0271JUNIOR COLLEGE OF ALBANY  NEW SCOTLAND AVE & ACADEMY RD  ALBANY
0272121 3 052 2
0281KINGSBOROUGH COMMUNITY COLLEGE  MANHATTAN BEACH  BROOKLYN
0282131 3 052 1105
0291MARIA COLLEGE OF ALBANY  634 NEW SCOTLAND AVE  ALBANY
029211112 072 1105
0301MARIA REGINA COLLEGE  SYRACUSE
030211212 052 2
0311MATER CHRISTI SEMINARY  1134 NEW SCOTLAND ROAD  ALBANY
031211111 052 2
0321MATER DEI COLLEGE  OGDENSBURG
032211112 052 1107
0331MOHAWK VALLEY COMMUNITY COLLEGE  UTICA
0332131 3 052 2
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0341MONROE COMMUNITY COLLEGE  410 ALEXANDER ST  ROCHESTER
0342131 3 052 2
0351NASSAU COMMUNITY COLLEGE  STEWART AVE  GARDEN CITY
0352131 3 082 1105
0361NEW YORK CITY COMMUNITY COLLEGE  300 PEARL STREET  BROOKLYN
0362131 3 052 1105
0371NIAGARA COUNTY COMMUNITY COLLEGE  430 BUFFALO AVE.  NIAGARA FALLS
0372131 3 052 2
0381ONONDAGA COMMUNITY COLLEGE  700 E. WATER ST  SYRACUSE
0382131 3 052 2
0391ORANGE COUNTY COMMUNITY COLLEGE  ORANGE
0392131 3 052 2
0401OUR LADY OF HOPE SEMINARY  BOX 708 NEWBURGH
040211111 052 2
0411PACKER COLLEGIATE INSTITUTE  170 JORALEMON ST  BROOKLYN
0412121 2 072 2
0421PAUL SMITH'S COLLEGE OF ARTS & SCIENCES  FRANKLIN
0422121 3 092 2
0431PRESENTATION JUNIOR COLLEGE  NEWBURGH
043211112 052 2
0441QUEENSBOROUGH COMMUNITY COLLEGE  BAYSIDE AT SPRINGFIELD BLVD & 56 AVE
3111RICHMOND COLLEGE (CUNY)  130 STUYVESANT PLACE  STATEN ISLAND
3112131 3 032 2
3121RICHMOND COLLEGE (CUNY)  130 STUYVESANT PLACE  STATEN ISLAND
312213  3 032 2
0442131 3 052 2
0451ROCKLAND COMMUNITY COLLEGE  145 COLLEGE ROAD  SUFFERN
0452131 3 05152
0461SAINT CLARE COLLEGE  400 MILL STREET  WILLIAMVILLE
046211112 052 2
0471STATEN ISLAND COMMUNITY COLLEGE  OCEAN TERRACE  STATEN ISLAND
0472131 3 052 2
0481SUNY AGRICULTURAL & TECHNICAL COLLEGE AT ALFRED  P.O. BOX 86  ALFRED
0482131 3 052
0491SUNY AGRICULTURAL & TECHNICAL COLLEGE AT CANTON  CANTON
0492131 3 052
0501SUNY AGRICULTURAL & TECHNICAL COLLEGE AT COBLESKILL  WEST MAIN ST
0502131 3 052 2
0511SUNY AGRICULTURAL & TECHNICAL COLLEGE AT DELHI
0512131 3
0521SUNY AGRICULTURAL & TECHNICAL COLLEGE AT FARMINGDALE
0522131 3 052
0531SUNY AGRICULTURAL & TECHNICAL COLLEGE AT MORRISVILLE
0532131 3 052
054SUFFOLK COUNTY COMMUNITY COLLEGE  SELDEN COUNTY
0542131 3 052 2
0551SULLIVAN COUNTY COMMUNITY COLLEGE  P.O. BOX 1  SOUTH FALLSBURG
0552131 3 052 2
0561TROCAIRE COLLEGE  110 RED JACKET PARKWAY  BUFFALO
056211112 052 2
0571ULSTER COUNTY COMMUNITY COLLEGE  214 W. CHESTNUT STREET  KINGSTON
0572131 3 052 2
0581VILLA MARIA COLLEGE  BUFFALO
058211112 052 1105
0591VOORHES TECHNICAL INSTITUTE  450 W 41 ST
0592121 1 052 2
0601WADHAMS HALL  RIVERSIDE DRIVE  OGDENBURG
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060211111 052 2
0611WESTCHESTER COMMUNITY COLLEGE  VALHALLA
0612131 3 052 1112
0621THE WILLIAM H. MINER AGRICULTURAL RESEARCH INSTITUTE  CHAZY
0622
0631BROOKLYN COLLEGE  BROOKLYN
063223  3 042 2
0641BROOKLYN COLLEGE  BEDFORD AVE & AVE H  BROOKLYN
0642132 3 052 2
0651CITY COLLEGE (CUNY)  138 ST. & CONVENT AVE  NEW YORK CITY
0652132 3 052 2
0661CITY COLLEGE (CUNY) 138 ST. & CONVENT AVE.  NEW YORK CITY
066223  3 042 2
0671HUNTER COLLEGE (CUNY)  PARK AVE. & 68 ST.  NEW YORK CITY
0672132 3 052 2
0681HUNTER COLLEGE (CUNY)  PARK AVE & 68 ST  NEW YORK
068223  3 042 2
0691QUEENS COLLEGE  FLUSHING
0692132 3 122 1105
0701QUEENS COLLEGE  FLUSHING
070223  3 042 2
0711STATE UNIVERSITY AT ALBANY  ALBANY
071223  3 042 2
0721STATE UNIVERSITY AT ALBANY  ALBANY
0722132 3 05151104
0731SUNY COLLEGE OF CERAMICS AT ALFRED UNIVERSITY  ALFRED
073223  3 042 2
0741SUNY COLLEGE OF CERAMICS AT ALFRED UNIVERSITY  ALFRED
0742132 3 082 1105
0751SUNY ALFRED AGRICULTURAL & TECHNICAL COLLEGE  ALFRED
0752131 3 08141105
0761SUNY COLLEGE AT BINGHAMPTON  BINGHAMPTON
0762132 3 05121205
0771SUNY COLLEGE AT BINGHAMPTON  BINGHAMPTON
077223  3 07121207
0781SUNY COLLEGE AT BROCKPORT  MONROE
0782132 3 051222
0791SUNY MARITIME COLLEGE AT FORT SCHUYLER  BRONX
0792132 1 052 2
0801SUNY AT BUFFALO  BUFFALO
0802132 3 05131105
0811SUNY AT BUFFALO  3435 MAIN STREET  BUFFALO
081223  3
0821SUNY COLLEGE AT BUFFALO  1300 ELMWOOD AVE  BUFFALO
0822132 3 05142
0831SUNY COLLEGE AT BUFFALO  1300 ELMWOOD AVE  BUFFALO
083223  3
0841SUNY COLLEGE OF AGRICULTURE & TECHNOLOGY AT CANTON  CANTON
0842131 3 052 2
0851SUNY COLLEGE AT CORTLAND  W. COURT ST.  CORTLAND
0852132 3 132 2
0861SUNY COLLEGE AT CORTLAND  W. COURT ST.  CORTLAND
086223  3 042 2
0871SUNY AFRICULTURAL & TECHNICAL COLLEGE AT DELHI  DELHI
0872131 3 072 1105
0881SUNY AGRICULTURAL & TECHNICAL COLLEGE AT FARMINGDALE  FARMINGDALE
0882131 3 052 2
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0891SUNY COLLEGE AT FREDONIA  CHAUTAUGUA
089223  3 042 2
0901SUNY COLLEGE AT FREDONIA  CHAUTAUGUA
0902132 3 052 2
0911SUNY COLLEGE AT GENESCO  WADSWORTH ST.  GENESCO
091223  3 042 2
0921SUNY COLLEGE AT GENESCO  WADSWORTH ST.  GENESCO
0922132 3 05122
0931SUNY COLLEGE OF AGRICULTURE AT CORNELL  ITHACA
0932132 3 13151199
0941SUNY COLLEGE OF AGRICULTURE AT CORNELL  ITHACA
094223  3 13151199
0951SUNY VETERINARY COLLEGE AT CORNELL  ITHACA
0952132 3
0961SUNY VETERINARY COLLEGE AT CORNELL  ITHACA
096223  3
0971SUNY SCHOOL OF INDUSTRIAL & LABOR RELATIONS AT CORNELL  ITHACA
0972132 3 131511
0981SUNY SCHOOL OF INDUSTRIAL & LABOR RELATIONS AT CORNELL  ITHACA
098223  3 131 11
0991SUNY COLLEGE OF HOME ECONOMICS AT CORNELL  ITHACA
0992132 3 132 11
1001SUNY COLLEGE OF HOME ECONOMICS AT CORNELL  ITHACA
100223  3 132 11
1011SUNY AGRICULTURAL & TECHNICAL COLLEGE AT MORRISVILLE  MORRISVILLE
1012131 3 052 2
1021SUNY DOWNSTATE MEDICAL CENTER  450 CLARKSON AVE  BROOKLYN
102233  31032 2
1031SUNY COLLEGE AT NEW PALTZ  NEW PALTZ
1032132 3 05132
1041SUNY COLLEGE AT ONEONTA  ONEONTA
1042132 3 05122
1051SUNY COLLEGE AT ONEONTA  ONEONTA
105223  3 042 2
1061SUNY COLLEGE AT OSWEGO  OSWEGO
1062132 3 05122
1071SUNY COLLEGE AT OSWEGO  OSWEGO
107223  3 042 2
1081SUNY COLLEGE OF ART & SCIENCE AT PLATTSBURGH  PLATTSBURGH
1082132 3 052 2
1091SUNY COLLEGE OF ARTS & SCIENCE AT PLATTSBURGH  PLATTSBURGH
109223  3
1101SUNY COLLEGE AT POTSDAM  POTSDAM
1102132 3 052 2
1111SUNY COLLEGE AT POTSDAM  POTSDAM
111223  3 042 2
1121SUNY AT STONY BROOK  STONY BROOK
1122132 3 051211
1131SUNY COLLEGE AT STONY BROOK  STONY BROOK
113223  3 042 2
1141SUNY COLLEGE OF FORESTRY AT SYRACUSE UNIVERSITY
114223  3 052 1104
1151SUNY COLLEGE OF FORESTRY AT SYRACUSE UNIVERSITY  SYRACUSE
1152132 3 052 1104
1161SUNY UPSTATE MEDICAL CENTER AT SYRACUSE (NURSING)  SYRACUSE
1162131 3 052 2
1171SUNY UPSTATE MEDICAL CENTER  SYRACUSE
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117233  31032 1105

CLOSED

0091CATHERINE MCAULEY COLLEGE  1437 BLOSSOM ROAD ROCHESTER
0092CLOSED
0181EYMARD PREPARATORY SEMINARY  HYDE PARK
0182 CLOSED
0221HILLSIDE HALL  HILLSIDE
0222CLOSED
2831ST. PIUS X PREPARATORY SEMINARY  1220 FRONT STREET  UNIONDALE
2832CLOSED
2841ST. PIUS X SEMINARY  GRAYMOOR GARRISON
2842CLOSED
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Appendix I.B

November 22, 1968

Dear Sirs:

We are conducting a survey, for the New York State Department of Education, of grading practices used by all institutions of higher education located in New York State. We would very much appreciate your sending us a copy of your most recent bulletin or catalog.

Thank you very much for this courtesy.

Sincerely,

Kenneth M. Goldstein, Ph.D.
Ass't Professor of Psychology

Harvey A. Tilker, Ph.D.
Ass't. Professor of Psychology

KMG/HAT/ltg

Appendix I.C

QUESTIONNAIRE

Title of Respondent____

Institution____

Branch (if applicable)______________________________________

TO: Dean of Students

1. Has your college in any way changed its grading system within the past 5 years? Yes (____) No (____)

    A. If NO, please attach a statement or description of your present grading system (e.g., a blank transcript or a description from the college bulletin). Please return this material in the enclosed envelope.

    B. If YES, please answer the following questions.

2. Please describe the former grading system in as much detail as possible, or if some printed statement is available, please attach.

3. Please describe any changes which have been instituted in the grading system described above. If a written statement is available describing the current system, please attach.

(continued)

Appendix I.C (continued)

4. Please indicate what reasons prompted this change.

5. Have any attempts been made to assess formally both student and/or faculty reactions to your change in the grading system? (Please describe).

6. If there has been no formal assessment, please describe briefly what you feel the general reaction has been among students and/or faculty.

THANK YOU VERY MUCH FOR YOUR COOPERATION!

HAT/ltg

Appendix I.D

January 6, 1969

Dear Sirs:

We are conducting a survey for the New York State Department of Education of grading practices used by all institutions of higher education located in New York State. We would very much appreciate your answering the enclosed questionnaire and returning it to us as soon as possible. A stamped self-addressed envelope is provided for your convenience.

Thank you very much for your cooperation.

Very truly yours,

Kenneth M. Goldstein, Ph.D.
Ass't. Professor of Psychology

Harvey A. Tilker, Ph.D.
Ass't. Professor of Psychology

KMG/HAT/ltg

Appendix I.E

REVISED CODING SHEET

Card #1

Code 1-3
4-1

School____ 5-80
Address_____________________________County____________________

- -

Card #2

Code 1-3
4-2

A) (1)_____undergraduate (2)_____graduate (3)_____professional 5

B) (1)_____parochoal/seminary (2)_____private (3)_____public 6

C) If undergraduate: (1)_____2 year (2)_____4 year 7

D) If parochial/seminary: (1)_____Catholic (2)_____Protestant 8
(3)_____Jewish (4)_____Other

E) (1)_____male (2)_____female (3)_____Coed 9

F) If professional: (1)_____medical (2)_____dental (3)_____law 10
(4)_____pharmacy (5)_____other

G) Basic grading scale (including plus and minus only if recorded on transcript)__________________________. 11-12

H) Other grading options: (1)_____yes (2)_____no 13

I) Option code____ 14

J) Recent modification in grading system: (1)_____yes (2)_____no 15

K) Date of last modification: (1)_____1969-1965 (2)_____before 1965 16

L) Grading scale (number of points, including plus and minus if recorded on transcript) of previous grading system__________ 17-18

Appendix I.F

CODE FOR PASS/FAIL OPTIONS

1. Only in major courses.
2. Only in non-major, non-required courses.
3. In either/both - major or non-major areas.
4. P/F used - but not explained.
5. Fieldwork courses, student teaching, independent study, physical education, seminars, dissertation preparation courses.
6. Med school - P/F assigned depending on % of work sufficiently done in one year (Cornell medical school).
7. P/F option - on trial - unexplained.

TFN/ltg

Appendix III.A

Name________________________________ Date________________________________

We are attempting to evaluate attitudes toward the grading system. Please read each of the statements below and then rate them as follows:

A	a	d	D
strongly agree	mildly agree	mildly disagree	strongly disagree

Indicate your opinion by drawing a circle arount the "A" if you strongly agree, around the "a" if you mildly agree, around the "d" if you mildly disagree, and around the "D" if you strongly disagree.

There are no right or wrong answers, so answer according to your own opinion. It is very important to the study that all question be answered. Many of the statements will seem alike but all are necessary to show slight differences of opinion.

1. By relieving pressure, the 3-point system helps improve study habits. A a d D
2. The 5-point system leads to learning for the sake of grades rather than for the sake of learning and knowledge. A a d D
3. The 3-point system will create difficulties for the student because it is not widely used. A a d D
4. The 5-point system is the more preferable system. A a d D
5. The 3-point system encourages students to work harder. A a d D
6. The 5-point system discourages the student from undertaking work on his own itiative. A a d D
7. The 3-point system leaves the student too much on his own. A a d D
8. The 5-point system allows everyone to get the grade they really deserve. A a d D
9. The 5-point system creates too much anxiety in competition for grades. A a d D
10. The 3-point system forces students to cram because of the competition for grades. A a d D
11. It will be easy for students to enter professional schools under the 5-point system. A a d D
12. The 3-point system will prove to be the best system. A a d D

(continued)

Appendix III.A (continued)

13. The 5-point system discourages the student from performing well. A a d D

14. The 3-point system stiffles student ingenuity. A a d D

15. The 5-point system allows the student a better evaluation of his ability and performance. A a d D

16. The 3-point system allows all students to compete fairly. A a d D

17. The 3-point system makes students tense and irritable. A a d D

18. Under the 5-point system students work for knowledge rather than grades. A a d D

19. The 3-point system will be of advantage to students planning to enter graduate school. A a d D

20. Students would be less likely to come to Richmond if we had a 5-point system. A a d D

21. The 3-point system does not motivate the student to work to his best ability. A a d D

22. The 5-point system encourages the student to perform more creatively. A a d D

23. You cannot flounder in your studies under the 3-point system without knowing it. A a d D

24. The 5-point system is unfair in that it allows the poor student a chance to get by. A a d D

25. The 5-point system reduces emotional upset because students are so generally familiar with it. A a d D

26. The 3-point system causes me to do more studying for my own benefit rather than for a specific grade. A a d D

27. The 5-point system will handicap some students who wish to attend graduate school. A a d D

28. There are few good arguments which can be made in favor of the 3-point system. A a d D

29. The 5-point system offers greater incentive to work and study. A a d D

30. The 3-point system produces more intellectual curiosity. A a d D

31. It is difficult for the student to accurately judge the adequacy of his performance under the 5-point system. A a d D

(continued)

Appendix III.A (continued)

32. The 3-point system is unfair to the student of average ability. A a d D

33. The 3-point system eliminates the anxiety of competition among students for grades. A a d D

34. The 5-point system makes the student cram for exams rather than really learn A a d D

35. Draft deferments will be a problem because of the 3-point system. A a d D

36. The 5-point system is the more effective system. A a d D

37. The 3-point system creates enthusiasm to perform well. A a d D

38. The 5-point system discourages students from taking difficult but interesting courses. A a d D

39. Under the 3-point system the student does not know where he stands during the course of the semester. A a d D

40. The 5-point system prevents poorer students from being grouped with better students. A a d D

41. The pressures of the 5-point system make students nervous. A a d D

42. The 3-point system prevents the student from really learning the material. A a d D

43. The 5-point system will make it easy for students to transfer from one institution to another. A a d D

44. All institutions should adopt the 3-point system. A a d D

45. Under the 5-point system students tend to produce the minimum work required. A a d D

46. The 3-point system prevents students from using their imagination. A a d D

47. The 5-point system makes it easier for the student to judge his academic standing relative to that of other students. A a d D

48. Under the 3-point system the average student is able to compete with the better student. A a d D

49. With the 3-point system the student is under greater pressure than with the 5-point system. A a d D

50. The 5-point system allows the student to organize his studying so that he can actually learn, not merely be "prepared." A a d D

(continued)

Appendix III.A (continued)

51. The 3-point system will make it easy for students to find employment after graduation. A a d D

52. All institutions should abolish the 5-point system. A a d D

53. The 3-point system makes students lose their drive. A a d D

54. The 5-point system encourages students to use their own initiative. A a d D

55. The 3-point system provides the student with a good evaluation of his performance. A a d D

56. The 5-point system is unfair to the average student. A a d D

57. There is less tension during examinations under the 5-point system. A a d D

58. The 3-point system encourages learning for its own sake. A a d D

59. The 5-point system will make it difficult for students planning to obtain jobs after graduation. A a d D

60. The 3-point system will not work out well. A a d D

61. The competition of the 5-point system encourages students to do well. A a d D

62. The 3-point system encourages the student to perform independently. A a d D

63. The 5-point system leaves the student unclear as to the quality of his performance. A a d D

64. The 3-point system provides little or no recognition to the above-average student. A a d D

65. The 3-point system makes it easier for the instructor to grade papers. A a d D

66. The 3-point system will result in more failures than the 5-point system. A a d D

67. It is not necessary to work as hard under the 3-point system. A a d D

68. The 3-point system makes it easier for the faculty to assign grades. A a d D

69. Under the 3-point system, an Honors is no different from an A. A a d D

(continued)

Appendix III.A (continued)

70. Under the 3-point system the feelings of the teacher may influence the student's grade. A a d D

71. The 3-point system treats the student like an adult. A a d D

72. The 3-point system allows the instructor too much freedom for determining the criterion used for the assignment of a grade. A a d D

73. The 5-point system orients the student toward responsibility. A a d D

74. With the 5-point system, too much responsibility is given to the instructor A a d D

75. It is relatively easy to get by under the 5-point system. A a d D

76. The 5-point system discourages class participation. A a d D

77. The 5-point system is easier for instructors to use. A a d D

78. The relationship between student and teacher is better under the 3-point system. A a d D

79. I feel very strongly about the opinions I have given in this questionnaire. A a d D

80. I have spent a good deal of time considering the merits and demerits of the 5-point and 3-point systems. A a d D

81. If I were to vote today, I would select the (1) 3-point or (2) 5-point system. 1 2

82. I would prefer some system other than the 3-point or 5-point systems: 1 2
(1) Yes or (2) No.

- -

Appendix III.B

Approximately 1 year ago we conducted a study of attitudes toward the Richmond College grading system. The first 64 items of the questionnaire were designed to measure attitudes in 8 different areas, or categories. Your task is to tell us how successful we were in writing items for each of the areas.

Listed below are the 8 categories for which items were written. Please read the list over 2 times to familiarize yourself with each of the categories. Then, to the left of each item on the questionnaire, write the letter of the category which you feel best describes the item.

Category	Items were supposed to reflect:
A	AMOUNT OF FEEDBACK (does the grading system provide the student with sufficient information about his performance)
B	MOTIVATION TO WORK WELL (does the grading system provide motivation or inspiration or incentive for the student to perform well)
C	ANXIETY AND PRESSURE INDUCED BY THE SYSTEM (does the particular grading system produce anxiety, tension, or pressure on the student)
D	ENCOURAGING CREATIVITY (does the grading system serve to encourage or foster creative, novel, imaginative performance)
E	TRUE LEARNING VS. LEARNING FOR GRADES (does the grading system encourage the student to really learn the material to meet his own needs and interests, or does it only encourage learning and memorization so that the student can pass an examination)
F	GENERAL EVALUATION (does the item reflect general favorableness or unfavorableness to the grading system; this category should not be used if any other category is applicable)
G	EASE OF ENTERING GRADUATE SCHOOL (does the grading system facilitate or make difficult entrance to graduate schools, the business world, other institutions)
H	FAIRNESS OF THE SYSTEM (is the system fair to all students; are some students rewarded more than they should be, are some students penalized more than they should be)

Please make sure to read thru the categories at least 2 times. Do not go on to the questionnaire until you are told to do so. FEEL FREE TO REFER BACK TO THESE CATEGORIES AS OFTEN AS NECESSARY.

Remember, this is your grading system. This is not an investigation of your attitudes. It is only a check on the placement of items into categories. Your honest cooperation in this aspect of the project is crucial to the proper evaluation of attitudes toward the grading system.

Appendix III.C

Informal Impressions of the Richmond College Grading System

During the first two years at the College the writers have had many opportunities to discuss the grading system with students and faculty. During this time we have found that some graduate institutions will not even consider accepting our graduates because of our grading system. Others have asked for translations in varying detail of the meaning of the specific grade received in a course, especially when that grade was a "Pass." Some of our students have reported that the grading system was a handicap in their attempts to enter certain graduate schools.

Of course, at Richmond College especially, we are dealing with a confounded variable. Not only do the graduate and professional schools know little about our grading practices, but they know little about the college and the general quality of our students. As always, there is always some unspecified factor having to do with the quality of the institution at which the grade was earned. We must therefore proceed with caution in attempting to assess whether our grading system has or has not been a liability.

In other areas, the system seems to matter little. There are students who appear highly motivated to do well, and still continue to do so independent of the type of grade awarded to them. There are others who are not so motivated, and it makes little difference to them whether they receive a "C", a "D", or a "Pass." It has not been obvious to this writer that the 3-point system has actually encouraged any type of better, more creative, work.

The College appears to be moving in the direction of allowing students to choose from 2 or more grading systems that which they would like to be evaluated by, either for their Richmond College career, or for each Richmond

(continued)

College course. It would appear, on the basis of talks with students, that those most interested in pursuing their education after graduation from Richmond College will most likely choose a more conventional 5-point system; those who are not, for a variety of reasons and self-interests, will choose a 2- or 3-point system.

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